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textile bulletin

JUNE • 1951

INSTITUTE FOR
RESEARCH IN
SOCIAL SCIENCE

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NON-FLUID OIL
TRADE MARK REGISTERED

55 Years of Lubrication Progress

April 21, 1896-1951. As we celebrate our 55th anniversary of lubrication service to industry, it brings to mind the saying, "It must be good to be where it is today." During this terrifically competitive period of industrial expansion, the unique drip-less, waste-less properties of NON-FLUID OIL, and its ability to provide cleanly, dependable and economical lubrication, have enabled this product to keep pace with the lubrication needs in all phases of U. S. industry.

Huge petroleum mergers have been the order of the day during the first half of the twentieth century. NON-FLUID OIL has been able to survive and flourish in the shadow of this "sheer bigness" because of its higher efficiency and greater economy than ordinary oils and greases—aside from its cleanly features.

NON-FLUID OIL is made in grades exactly suited to the lubrication of all types of textile machinery.

Send for instructive bulletin and free testing sample of NON-FLUID OIL.

NEW YORK & NEW JERSEY LUBRICANT CO.

292 Madison Avenue, New York 17, N. Y. Works: Newark, N. J.
Southern District Manager: FALLS L. THOMASON, Charlotte, N. C.

55th ANNIVERSARY NON-FLUID OIL

WAREHOUSES: Atlanta, Ga.—Birmingham, Ala.—Charlotte, N. C.—Chicago, Ill.—Columbu
Ga.—Detroit, Mich.—Greensboro, N. C.—Greenville, S. C.—Providence, R. I.—St. Louis, M

*NON-FLUID OIL is not the name of a general class of lubricants, but is a specif
product of our manufacture.*

Use Draper *Improved* Repair Parts

because-

- ❶ The Castings are Uniform.
- ❷ They Cannot be Duplicated.
- ❸ Draper Service is Included.
- ❹ They give Proven Performance.
- ❺ They cost Less than Substitutes in the Long Run.
- ❻ They are Dependable.
- ❼ They are the Result of Combined Mill and Draper Experience.
- ❽ They keep your Looms operating in an Efficient Manner.
- ❾ They are Designed and Manufactured by your Loom Builder.
- ❿ They are the Result of Constant Research and Development.

DRAPER CORPORATION
HOPEDALE, MASSACHUSETTS
Atlanta, Ga. Spartanburg, S.C.

Commercial

FACTORING

More and more, the word "COMMERCIAL" is recognized as the "distinguishing mark" in factoring. It is the symbol of long experience, complete facilities and resources, and a knowledge of every branch of the textile industry.

We will gladly explain in detail what *COMMERCIAL FACTORING* can mean to your business in new opportunities and increased profits.

COMMERCIAL FACTORS CORPORATION

TWO PARK AVENUE, NEW YORK 16
EUGENE G. LYNCH, 80 FEDERAL STREET, BOSTON 10, MASS.
T. HOLT HAYWOOD, WINSTON-SALEM, NORTH CAROLINA

CFC

AMCO Humidification System in weave room of Broad Brook Company, Broad Brook, Conn.

Control regain and assure a
BETTER WOOL PRODUCT
...INCREASED PROFITS!

You may be losing more than you think if yours is a "dry-air" mill.

Total weight, after all, is dry wool plus moisture. So when moisture in the air is abnormally low, moisture from the wool evaporates into the air — at the expense of the wool you are processing. Is it any wonder that profits begin to dry up when the air dries out?

AMCO Humidification keeps the air, your biggest single asset, "liquid". It governs surrender of regain; assures better control of weights and yarn counts; reduces fly; improves end products by preserving flexibility, resiliency and pliability. And very important . . . that perennial troublemaker, static electricity, is effectively routed. All good reasons why it will pay you to consult a trained and experienced AMCO engineer without delay.

Should you already have a modern, efficient humidification system and seek to add *cooling*, AMCO can help you with that job, too. Whether you propose installing a ductless system, a unit duct, or a central station air conditioning system, AMCO can tailor-make an installation to fit your specific needs.

AMCO system in spinning room of same mill

Benefits of controlled humidification

- Elimination of static electricity
- Higher yarn yields
- Less fly waste
- Oil savings through decrease in employed emulsions
- Greater spinning, dressing and weaving efficiency due to retention of moisture in yarn
- More flexibility, resiliency and pliability of yarn
- Better control of cloth weights.

AMCO

HUMIDIFICATION AND COOLING

AMERICAN MOISTENING CO., AFFILIATED WITH GRINNELL COMPANY, INC., PROVIDENCE, R. I. • BOSTON • ATLANTA • CHARLOTTE

Rayon Reports

Prepared Monthly by American Viscose Corporation, New York, N. Y.

JUNE, 1951

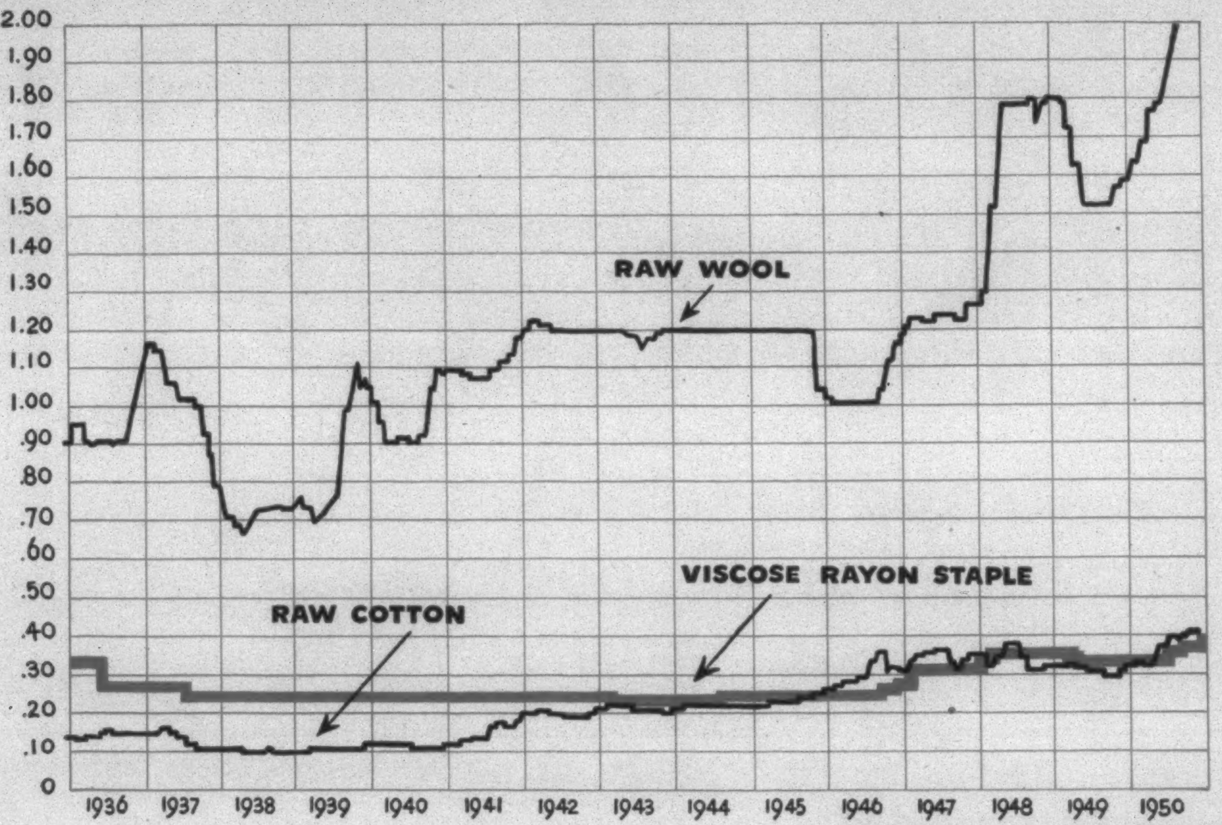


Chart Demonstrates Price Stability of Rayon Staple

Rayon's history of consistent price stability is graphically presented on the above chart. It shows that through depression, recession, war and peace man-made rayon's prices have been relatively proof from fluctuations caused by nature or man. This stability has played a part in the growing importance of rayon and its successful entry into so many divergent fields. It is believed that few products can show as stable prices over a similar period of years.

This chart, based on data in "Rayon Organon", is reproduced for wider circulation to those interested in modern textiles.

RAYON 20 YEARS AGO

NEW YORK, June 1931—The Viscose Company enters the acetate field with a new yarn called "Seraceta."

CHICAGO, June 1931—Plans are being made to feature rayon fashions at the forthcoming Chicago World's Fair.

ROANOKE, VA., June 1931—The textile market is picking up. The Viscose Company plant here has added five more hours to its work week.

MAKE USE OF *Avisco*® 4-PLY SERVICE

To encourage continued improvement in rayon fabrics, American Viscose Corporation conducts research and offers technical service in these fields:

1. FIBER RESEARCH
2. FABRIC DESIGN
3. FABRIC PRODUCTION
4. FABRIC FINISHING

AMERICAN VISCOSE CORPORATION

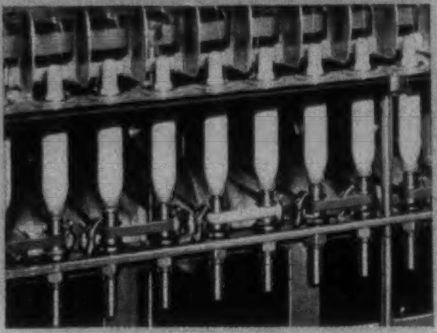
America's largest producer of rayon

Sales Offices: 350 Fifth Avenue, New York 1, N. Y.; Charlotte, N. C.; Cleveland, Ohio; Philadelphia, Pa.; Providence, R. I.

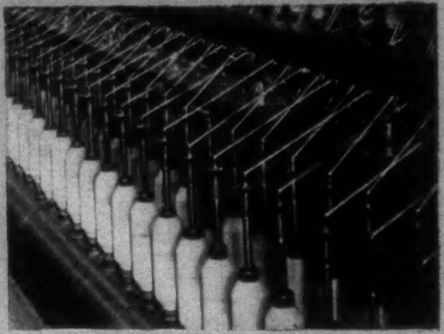
LESS FRICTION
CUT BOLSTER WEAR up to 2/3!
SAVE ON POWER COSTS TOO!

SINCLAIR

LONG BOLSTER LIFE



LESS THREAD BREAKAGE



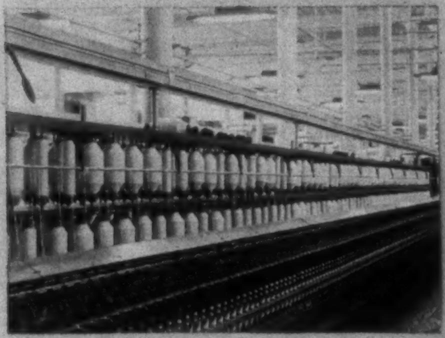
Mill records show that bolster wear may be cut as much as two-thirds by using Sinclair LILY WHITE Oil. This means long bolster life, fewer replacements — low maintenance cost. Also, eliminating package wobble caused by wear reduces thread breakage, gives better assurance of uniform quality of production and maximum output.

Another important advantage of reduced bolster wear is that power costs go down, too. For less wear means less frictional drag. And this lessened drag, multiplied by the number of spindles in the mill, can amount to a big saving in power requirement and cost.

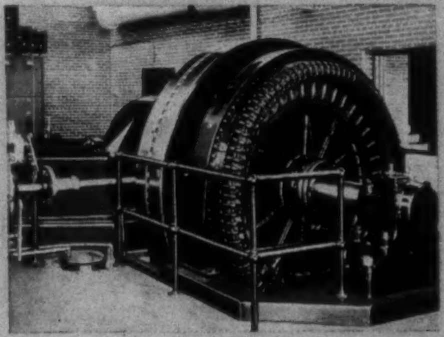
Sinclair LILY WHITE Oils, AX, BX, and CX are specially compounded for low friction loss and lowered power demand. They wash out readily. They are also effective rust preventives.

To save wear *and* power, use Sinclair LILY WHITE Oils.

HIGH QUALITY PRODUCTION



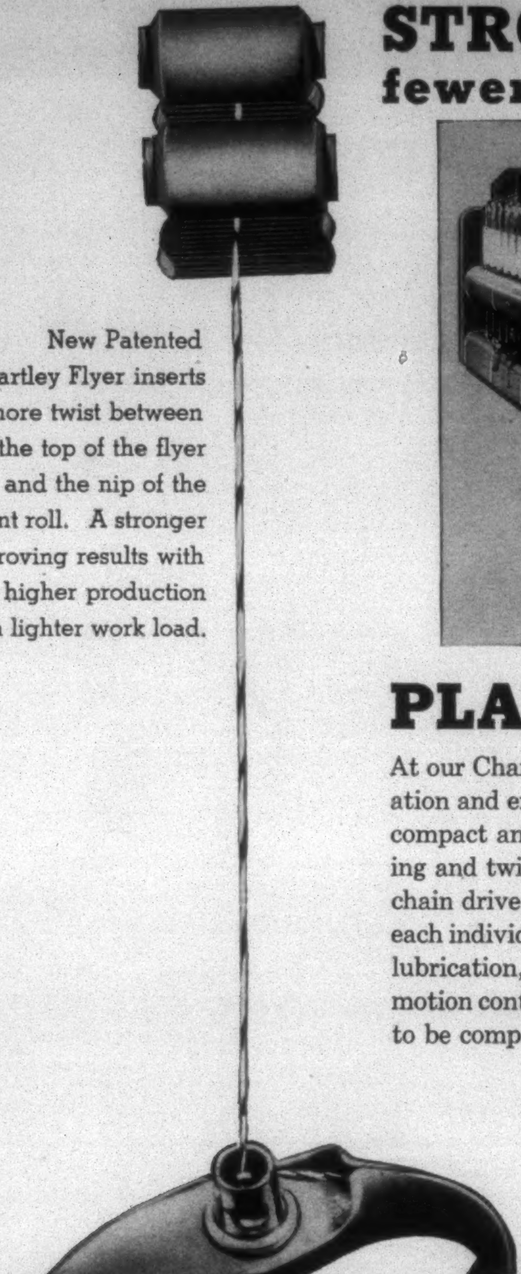
LOW POWER COSTS



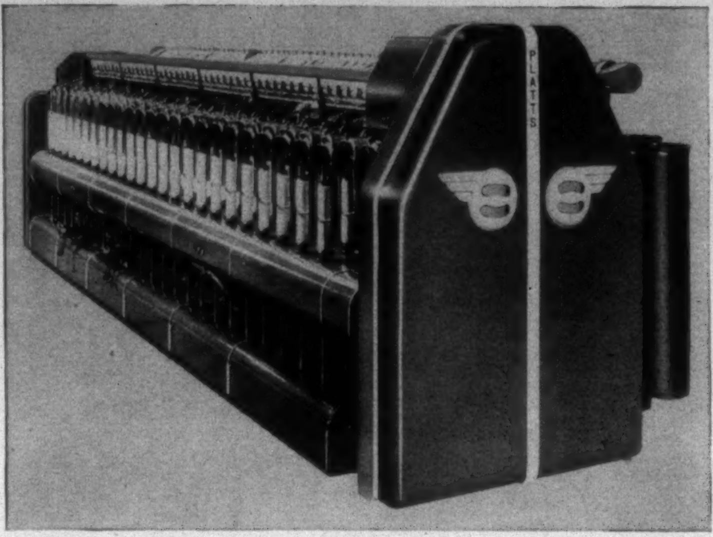
LUBRICANTS for the textile industry

For lubrication counsel, see your nearest Supplier of Sinclair Products
or write to Sinclair Refining Company, 630 Fifth Avenue, New York 20, N. Y.

STRONGER ROVING
fewer ends down...

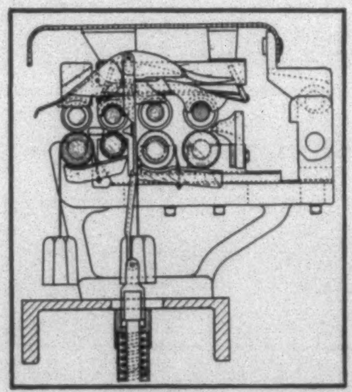


New Patented Hartley Flyer inserts more twist between the top of the flyer and the nip of the front roll. A stronger roving results with a higher production and a lighter work load.



PLATT'S M·S·2 HIGH DRAFT ROVING FRAME

At our Charlotte display rooms, you can see the M.S.2 Frame in operation and examine its well engineered features: The headstock is neat, compact and smooth in appearance, allowing easy access to the gearing and twist change-gears. The silent spindle and bobbin drive has a chain drive to the spindle and bobbin shafts with helical cut gears to each individual spindle and bobbin. Balance of bobbin rails, centralized lubrication, roller gearing, roller weighting, assisting rollers, measuring motion controls, guards and locking motions have all been well designed to be compact and accessible.



The TRIZONA (Trade-Mark) Drafting System employs a progressively controlled drafting which is the answer to the problem of fiber control in each critical drafting field. The patented guide units provide complete control of the fibers. The three drafting zones permit a wide range of drafts. We would be glad to send you a very interesting twelve page booklet with detail illustrations and comparative graphs of roving regularity.

PLATT BROS.
(Sales) Ltd. • *Oldham, England*

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PLATT BROTHERS & CO., LTD.
HOWARD & BULLOUGH, LTD.
ASA LEES & CO., LTD.
DOBSON & BARLOW, LTD.
BROOKS & DOXEY, LTD.

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a.h. *Atkinson, Haserick & Co.*
BUSINESS ESTABLISHED 1823
Textile Machinery Agents and Engineers
211 CONGRESS STREET, BOSTON 6, MASS.
1639 W. MOREHEAD ST., CHARLOTTE, N. C.

Anywhere in Textile America . . .

this *specialist*
in Yarn Carrier
selection
and application
is located nearby

Wherever your mill is situated . . . North, South, Canada, California . . . it's not far from the headquarters of some sales representative of the U·S Bobbin & Shuttle Co.

Each U S sales representative is a *specialist* in the selection and application of bobbins, shuttles and other U S products. Each devotes *full time* to helping millmen get top efficiency and economy with yarn carriers in every processing operation, from fiber to fabric.

And every U S representative is backed by a carefully integrated manufacturing and distribution system which is unmatched in the industry.

Every facility, from forest to frame — from logging to looms — is U S owned and controlled — the reason why the U S 93-year reputation for topmost quality can be steadily maintained.

U S is ready, now, to equip your mill with the cost-cutting new designs in yarn carriers you need to beat today's cost squeeze. The U S representative near you will call at your request to discuss your requirements. You'll find that most U S products can be delivered when you want them, without delay.

U S TIMBER PROPERTIES AND ROUGHING MILLS

Selected hardwoods from extensive U S owned timber lands are formed into blanks and conditioned in modern kilns at U S roughing mills.

U S MANUFACTURING PLANTS AND SALES OFFICES

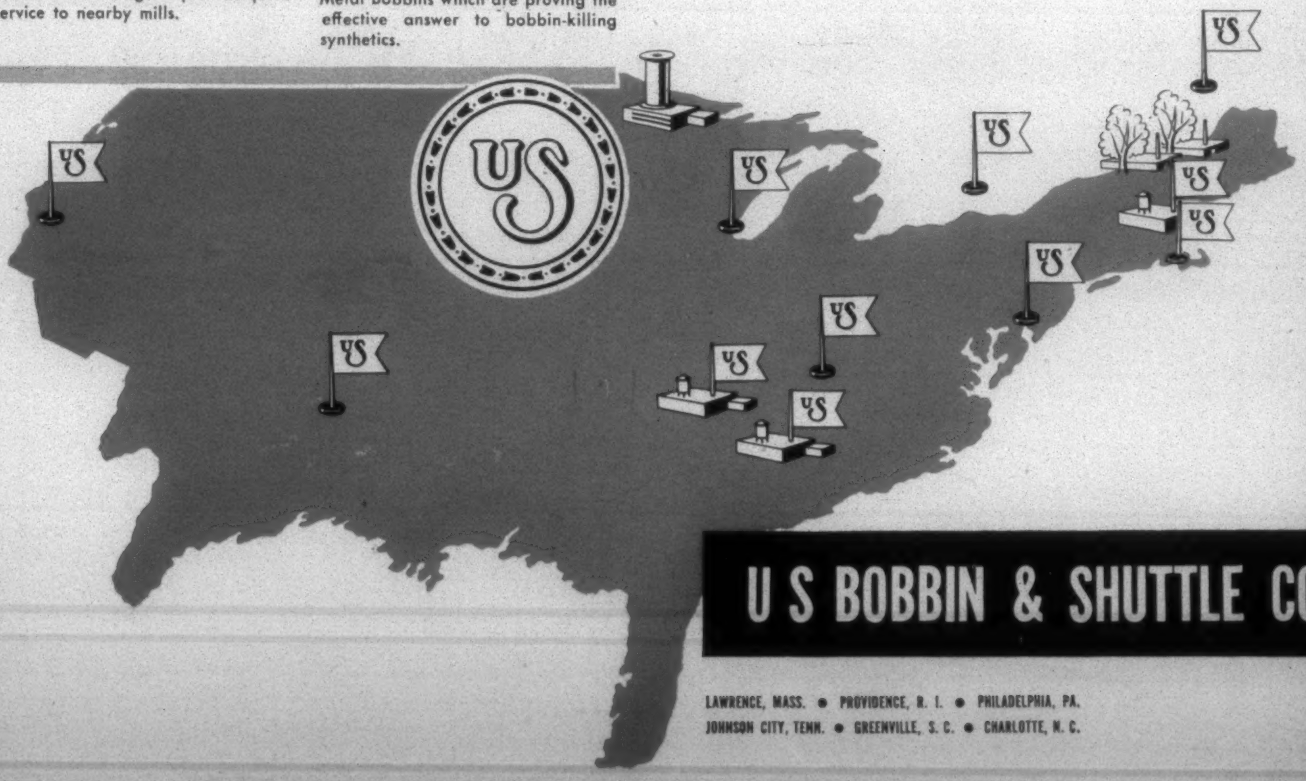
From the rough blanks, bobbins, shuttles and other wooden yarn carriers are manufactured in U S plants located near the centers of textile manufacture, North and South. A sales office operates in each of these plants.

OTHER U S SALES OFFICES AND AGENTS

Conveniently located in all other textile producing areas, U S separate sales offices and agents provide quick service to nearby mills.

PLANT FOR MANUFACTURE OF ACROPAK METAL BOBBINS

Acrometal Products, Inc., a U S subsidiary, produces the ACROPAK Metal Bobbins which are proving the effective answer to bobbin-killing synthetics.



U S BOBBIN & SHUTTLE CO.

LAWRENCE, MASS. ● PROVIDENCE, R. I. ● PHILADELPHIA, PA.
JOHNSON CITY, TENN. ● GREENVILLE, S. C. ● CHARLOTTE, N. C.

CHICAGO: Albert R. Breen, 80 E. Jackson Blvd. ● LOS ANGELES: E. G. Paules, 1762 W. Vernon Ave. ● CANADA: W. J. Westaway, Montreal, Que., Hamilton, Ont.

Complete Blending, Opening, Cleaning and Picking Systems for Cotton Mills

Opening, Blending and Picking Systems for Synthetic Fibers

New, and Rebuilt, Single-Process Pickers

The Aldrich Synchronized Single Process Picking System has consistently produced more uniform card sliver than any other picking system.

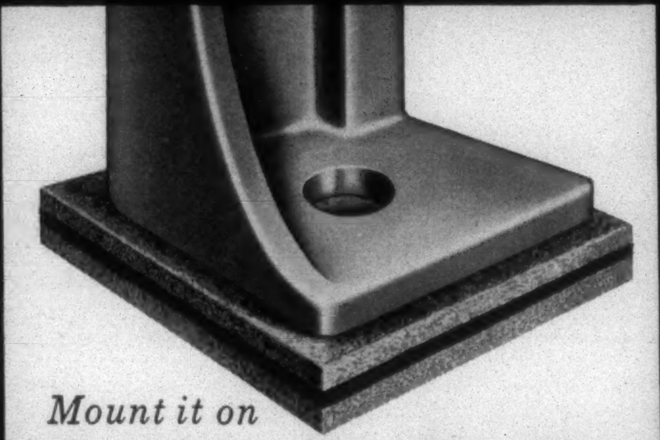
Parts for Kitson Pickers Always in Stock for Immediate Delivery

AldricH MachinE WorkS

Greenwood, South Carolina

Saco-Lowell Spinning Frames mounted on UNISORB at Tallassee Mills, Tallassee, Alabama. Says Mr. B. G. Stumberg, Agent: "In checking the results from this installation, we know that UNISORB pads have helped us to maintain our machinery in good running condition with a minimum of expense. We also have been able to extend the periods of overhauling and plumbing of spindles on our spinning frames and, too, we have less trouble in plumbing the spindles. We think UNISORB pads are necessary to get the best results from our equipment . . . with our experience, we gladly recommend the use of UNISORB in a mill." Over 90,000 spindles of spinning and twisting frames, plus all looms, are mounted on UNISORB at Tallassee Mills.

Make Your Machinery Last Longer



Mount it on

UNISORB®

Eliminates 60%-85% Transmitted Vibration

Get the Facts

ALL the Facts on Unisorb TODAY

Obvious is the need today for conservation of manpower and machinery. Look-ahead mills throughout the world have found UNISORB — the modern way to anchor textile machinery of every type — a big step toward vital savings.

By eliminating 60-85% of all transmitted machine vibration and noise, UNISORB prolongs machine life, makes buildings last longer... and lowers the noise factor for improved efficiency and morale.

And, because UNISORB Machine Mounting requires no bolts, no lag screws, it does away with old-fashioned, destructive floor drilling.

The
FELTERS COMPANY
210-T SOUTH STREET
BOSTON 11, MASS.

Offices: New York, Phila., Chicago, Detroit, St. Louis
Sales Representative: San Francisco
Southern Representative: Industrial Supply Co., Clinton, S. C.
Southwest Representative: Textile Supply Co., Dallas, Texas
Mills: Johnson City, New York; Millbury, Mass.; Jackson, Mich.; New York City

Distributors in Principal Cities Throughout the World

Everybody's vying with each other to make her CINDERELLA *every night!*

. . . AND THIS **COMPETITION** BEGINS IN THE WEAVEROOM

Listen to the music, Cinderella: "This soft cascade of sheerest moon-mist . . . this unspoken invitation to romance . . . this brilliant setting for your special loveliness!" Every day before her eyes passes an endless whirl of fine fabrics, distinctive designs, changing chords of color. Through each day she is many women, and now she can afford to interpret, in dress, the personality of each.

How can she buy so much for so little? Because there are so many mills with modern weaverooms that are *competitive in output and quality* . . . for the good reason that they're equipped with high-speed, convertible C&K Call Box Looms. And these mills will *remain* competitive through the most sudden and unexpected fashion-changes . . . because they have learned how to take full advantage of the matchless versatility of C&K Looms. Have *you?*

This "Invisible Trademark" Stands Back of the Trademarks of the World's Finest Woven Fabrics

Crompton & Knowles LOOM WORKS

WORCESTER 1, MASSACHUSETTS, U. S. A.

Philadelphia, Pa. • Charlotte, N. C. • Allentown, Pa. • Crompton & Knowles Jacquard & Supply Co., Pawtucket, R. I.

First Again!

Dynamaster
Model
No. 107

GASTON COUNTY DYEING EQUIPMENT NOW GIVES YOU

ELECTRONIC CONTROL

—the most advanced development in dye temperature measurement and control—the electronic DYNAMASTER, now perfected and fully incorporated in the new dyeing equipment of Gaston County Dyeing Machine Company . . . the same manufacturer who first introduced automatic beam and package dyeing machines.

High-speed, electronic action of the DYNAMASTER now gives *greater accuracy* and *greater sensitivity* than have ever before been possible with any dyeing machinery.

And yet the DYNAMASTER is extremely rugged. Unaffected by vibration, shock, or ambient temperature changes. Unaffected by line voltage fluctuations. Operates in any position, without the necessity of careful leveling. Requires no routine maintenance, never at any time needs lubrication. Operating units easily replaceable without effecting calibration. Simple construction, with few moving parts.

Be among the first to enjoy the advantages of electronic control in your plant. Plan to see it now. Write Gaston County Dyeing Machine Company for full information.

GASTON COUNTY DYEING MACHINE CO.

PIONEERS IN AUTOMATICALLY CONTROLLED DYEING MACHINES

STANLEY, NORTH CAROLINA, U. S. A.

Albert R. Breen
80 East Jackson Blvd.
Chicago, Ill.

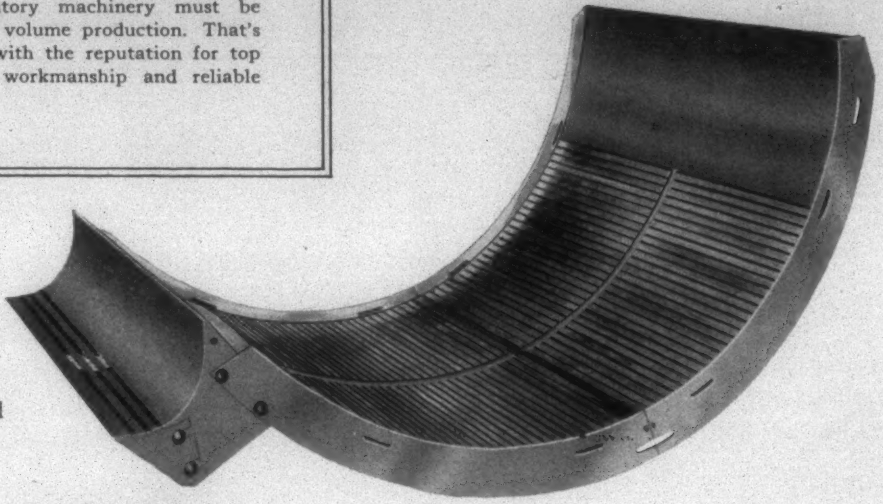
Gaston County Dyeing Machine Co.
Terminal Building, 68 Hudson St.
Hoboken, N. J., G. Lindner, Mgr.

The Rudel Machine Co., Ltd.
614 St. James St., W., Montreal
137 Wellington St., W., Toronto

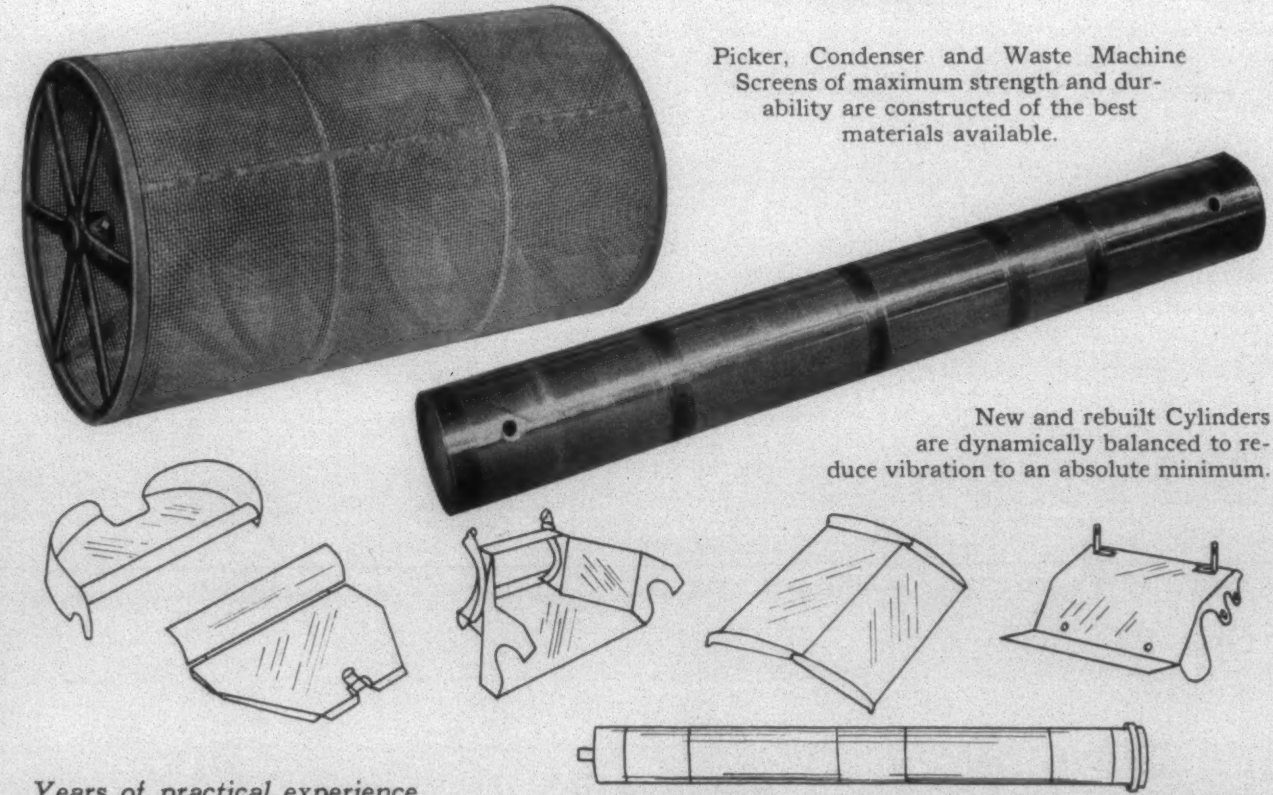
MORE PRODUCTION AT LOWER COSTS *with* GASTONIA *TEXTILE*

SHEET METAL PARTS

The quality and the profit of your end product starts at the beginning—where preparatory machinery must be geared for efficient, economical volume production. That's our job—a job for specialists with the reputation for top quality products, painstaking workmanship and reliable service.



Standard type rib or perforated Card Screens are precision built on special jigs. Every screen is inspected and double checked for accuracy and tolerance.

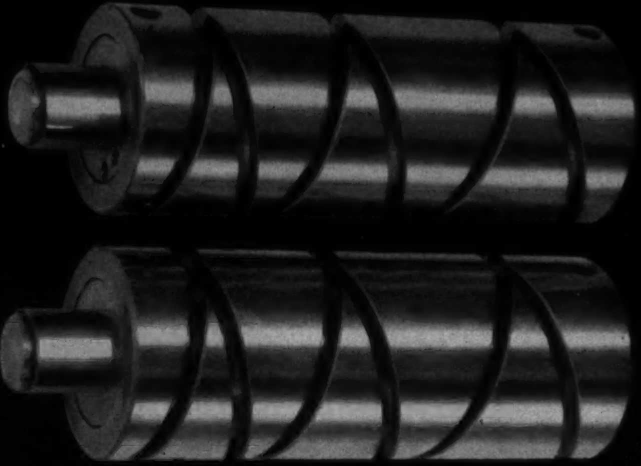


Picker, Condenser and Waste Machine Screens of maximum strength and durability are constructed of the best materials available.

New and rebuilt Cylinders are dynamically balanced to reduce vibration to an absolute minimum.

Years of practical experience —the finest of raw materials —and precision machinery in the hands of skilled workmen go into every product.

GASTONIA TEXTILE SHEET METAL WORKS, Inc.
GASTONIA, NORTH CAROLINA
A SHEET METAL WORKS SERVING TEXTILE MILLS

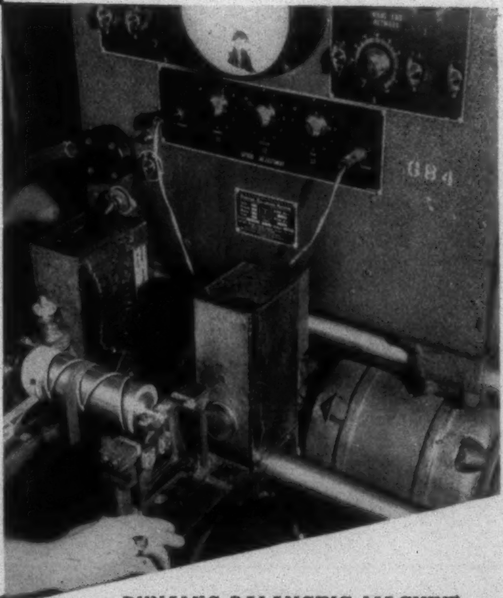


WHICH IS DYNAMICALLY BALANCED?

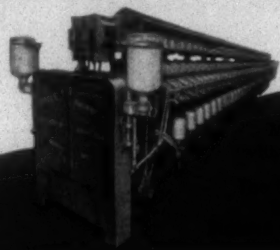
These two traverse cams for the Model 102 Winder are as much alike as precision machining and grinding on modern equipment can make them. But yet, they're not alike. One of these cams in its present form is sure to cause vibration . . . and enough chatter to compete successfully with a women's bridge party.

How do we know all this? It's information that's readily supplied by the dynamic balancing machine shown here. Electronically operated, this expensive and intricate machine indicates immediately if a cam is out of balance and where.

Our twin cams are but one example of the painstaking control of quality in every component part used in the building of Foster winders. You get built-in quality that pays off in high production at low operating cost and a minimum of maintenance.



DYNAMIC BALANCING MACHINE
AT FOSTER

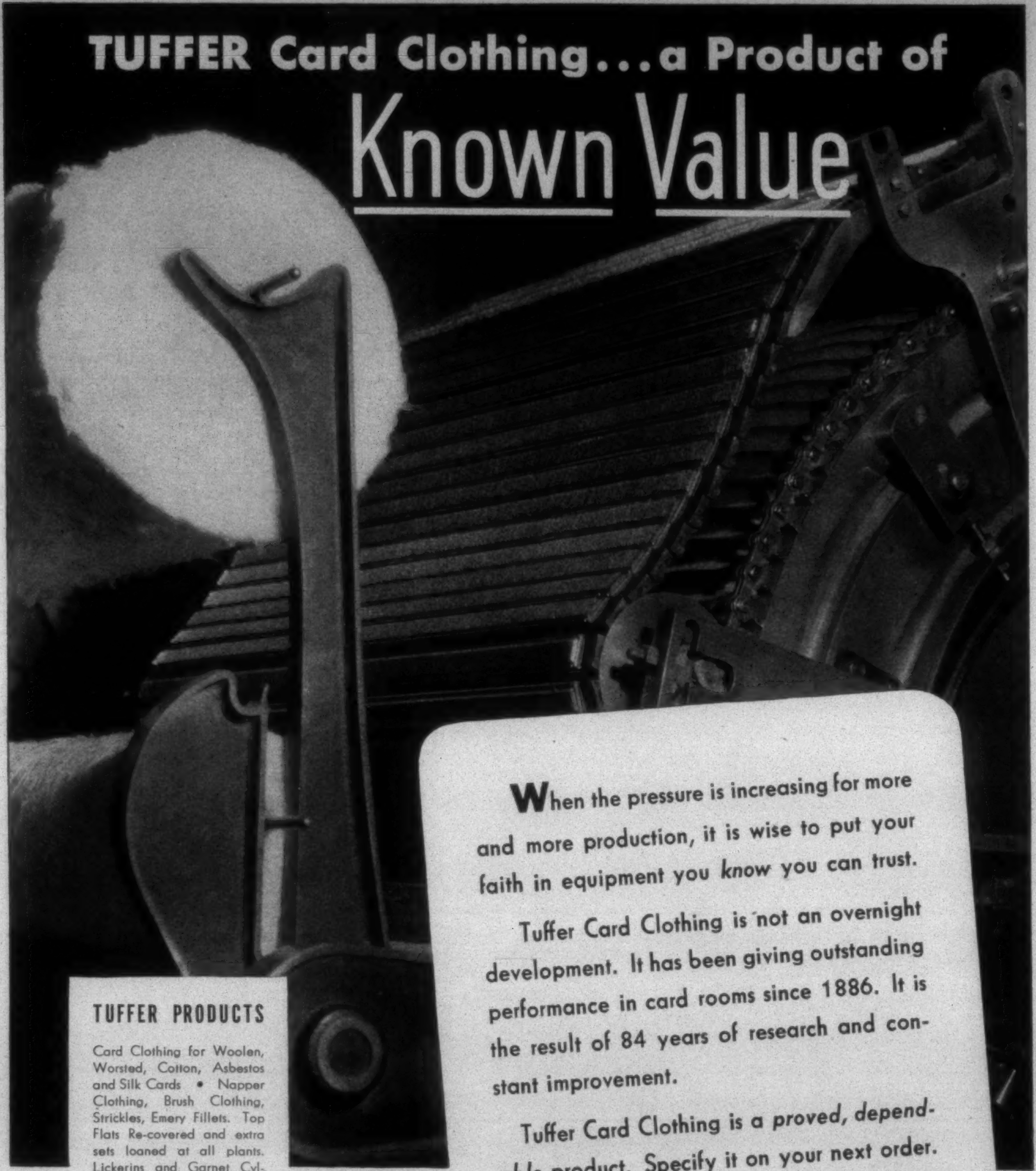


FOSTER MACHINE CO.
Westfield, Mass.

FOSTER F WINDERS

QUALITY WINDERS FOR ALL TYPES OF YARNS

TUFFER Card Clothing . . . a Product of Known Value



When the pressure is increasing for more and more production, it is wise to put your faith in equipment you *know* you can trust.

Tuffer Card Clothing is not an overnight development. It has been giving outstanding performance in card rooms since 1886. It is the result of 84 years of research and constant improvement.

Tuffer Card Clothing is a *proved, dependable* product. Specify it on your next order. Let it prove itself on your cards.

TUFFER PRODUCTS

Card Clothing for Woolen, Worsted, Cotton, Asbestos and Silk Cards • Napper Clothing, Brush Clothing, Strickles, Emery Fillets. Top Flats Re-covered and extra sets loaned at all plants. Lickerins and Garnet Cylinders from 4 to 30 inches and Metallic Card Breasts Rewired at Southern Plant • Midgley Patented, and Howard's Special Hand Stripping Cards • Inserted Eye & Regular Wire Heddles

HOWARD BROS. MFG. CO. WORCESTER 8, MASSACHUSETTS

Southern Plants: Atlanta, Ga. and Gastonia, N. C.

Branches: Philadelphia, Pa. and Blanco, Texas *Direct Representation in Canada* A-4

TUFFER CARD CLOTHING **IMPROVES PRODUCTION ALL ALONG THE LINE**

DUOFOL

POWERFUL SURFACE TENSION DEPRESSANT

AN EXCELLENT DYE LEVELLING AGENT

RENDERS THE FABRIC HIGHLY ABSORBENT

A SUPERIOR PENETRANT IN PACKAGE DYEING

AN OUTSTANDING WETTING AGENT

Hartex DUOFOL, a sulfated condensation product, is a clear amber oil possessing superior wetting, rewetting, and softening properties. It is clearly miscible with water in all proportions and retains its high surface activity in the presence of hard water, salt, alkali, or weak acids.

DUOFOL was developed for instantaneous wetting in baths at all temperatures up to the boil. It is recommended for dyeing operations in general and specifically for vat and package dyeing to give greater uniformity of shade.

When a solution of DUOFOL is dried into a fabric, it renders the fabric highly absorbent (rewetting property). In addition, DUOFOL acts as a softening agent making its use doubly advisable in compressive shrinkage operations.

Quantities as low as 4 oz. per 100 gallons have proved satisfactory for most applications.

Hartex Products

- Rayon Oils & Sizes
- Nylon Oils & Sizes
- Kier Bleaching Oils
- Finishing Oils
- Synthetic Detergents
- Conditioning Agents
- Scrooping Agents
- Splashproof Compounds
- Delustrants
- Leveling Agents
- Cationic Softeners
- Cotton Warp Dressings
- Wetting-Out Agents
- Weighting Agents
- Mercerizing Penetrants

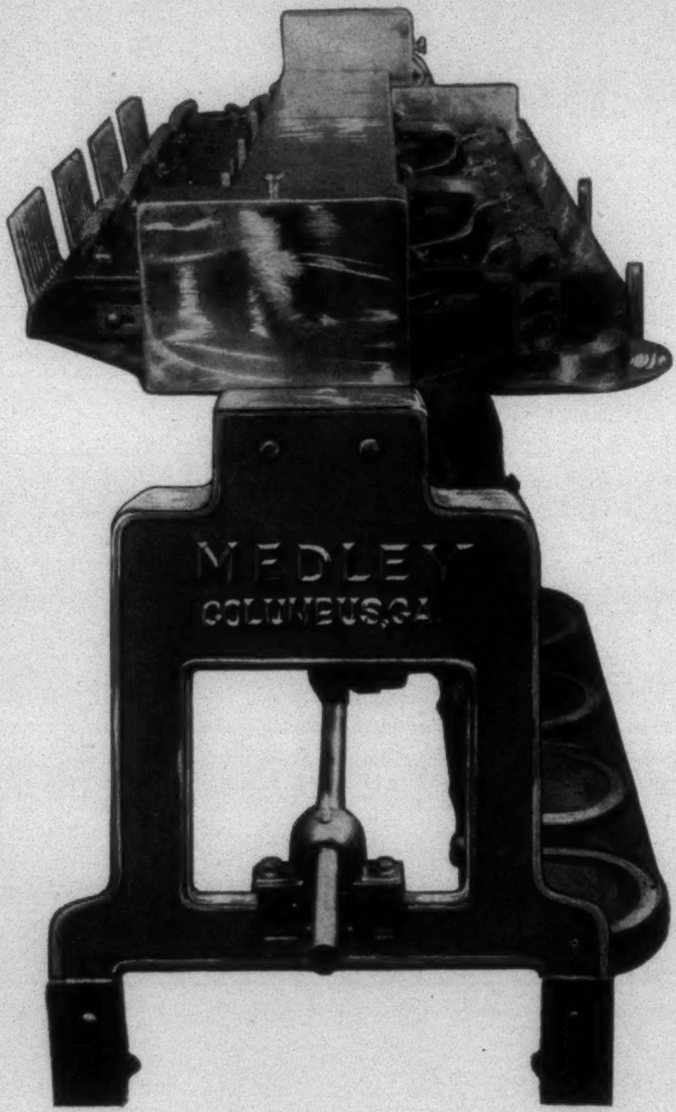
HART PRODUCTS

based on research

THE HART PRODUCTS CORPORATION
1440 Broadway, New York, N. Y.

We've Lifted the Standard

By Lowering the Tolerances!



Medley is raising the accepted standard of quality at the drawing frame in mills throughout the country . . . by lowering the accepted tolerances on critical dimensions of the drawing rolls.

Besides being built to the closest tolerances we have ever achieved, the rolls are induction heat-treated, which of course means extra years of trouble-free service.

At your request we will be glad to send a competent technician to your plant to discuss your drawing problems.

MEDLEY MANUFACTURING COMPANY, LTD.

HOME OFFICE

400 THIRTY-SECOND STREET •-• COLUMBUS, GEORGIA

CORROSION NOW POSES A DOUBLE THREAT

Worn out and corroded equipment may not be replaceable

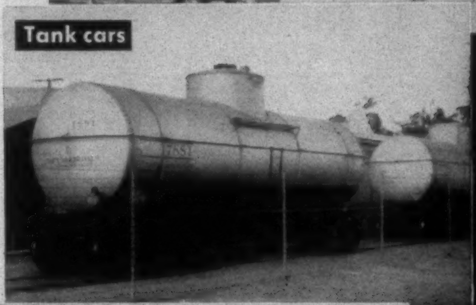
Don't take chances on vital equipment. Scarce metals and materials are becoming scarcer. Farsighted business men are rebuilding, repairing and *protecting* to insure continuity of their operations.

Do these two things today:

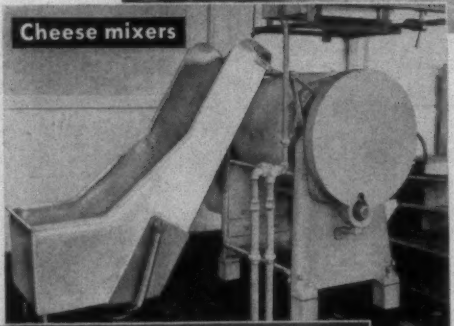
1. Check up in your plant—manufacturing equipment, piping, valves, tanks, motors, and all similar items.
2. Arrange to protect them with Amercoat—the corrosion-resistant coatings; each designed to meet specialized conditions.

Note: Most conventional coatings fail under severe service conditions. They are neither designed nor suitable for such applications.

Dam gates


Tank cars

Paper mills


Cheese mixers

Oil tanks

AMERCOAT CORPORATION

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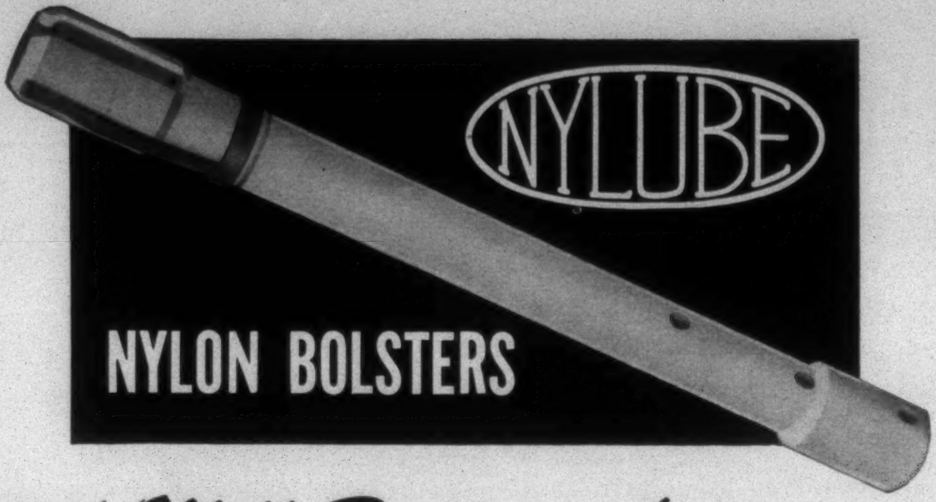

Actual Mill Reports show:

SPINDLE HORSEPOWER REDUCTIONS UP TO 15%

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#2 "Every 12th week instead of every 10 days"
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Running with far less friction, and a measured 10° cooler, no "Nylube" Bolster has worn out during four years of mill use. In addition to their immediate and direct savings in power and oil and oiling effort, there are the long-swing advantages of 90% reduction in spinning tape mortality, better running yarn, elimination of spindle base flushing.

At present available for Saco-Lowell #2a, 3a & 4a Spindles, and for Whitin #2 & #4 Spindles. *Your inquiry will have our prompt attention.*

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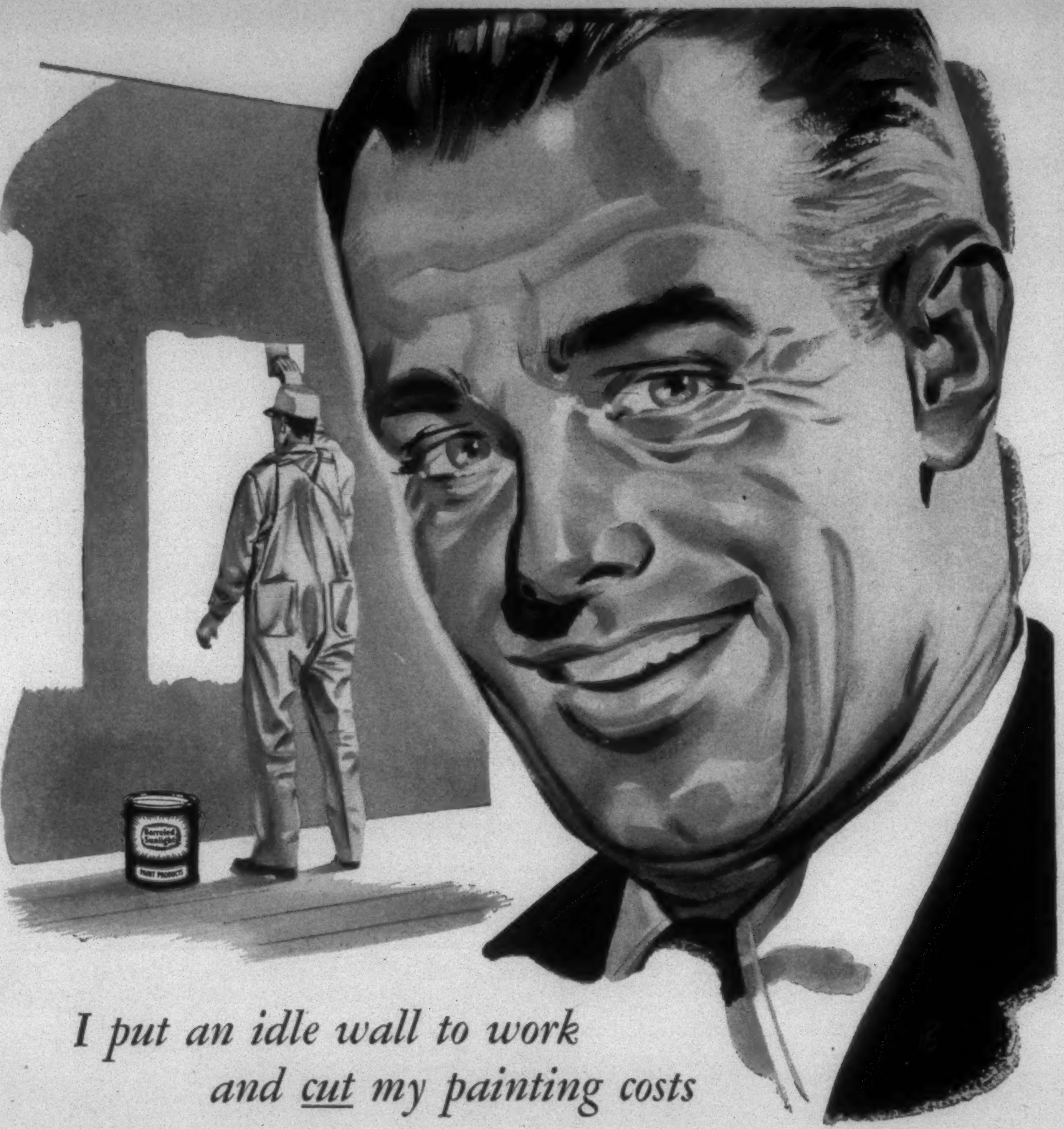

I put an idle wall to work and cut my painting costs

I got the idea from a Barreled Sunlight representative. "Painting costs", he said, "are never determined by the cost of paint per gallon. It's the *amount* of paint you have to buy . . . and of far greater importance, the amount of *labor* it takes to put it on."

To test this idea, I bought a gallon of Barreled Sunlight and compared it with a gallon of the paint I was using. Each was thinned according to directions on the can, and my painter applied each on an idle, out-of-the-way wall in my building. Right away I saw that Barreled Sunlight gave me more paint ready for the brush. It gave me more yardage on the wall... looked much better after drying . . . and took far less time to apply.

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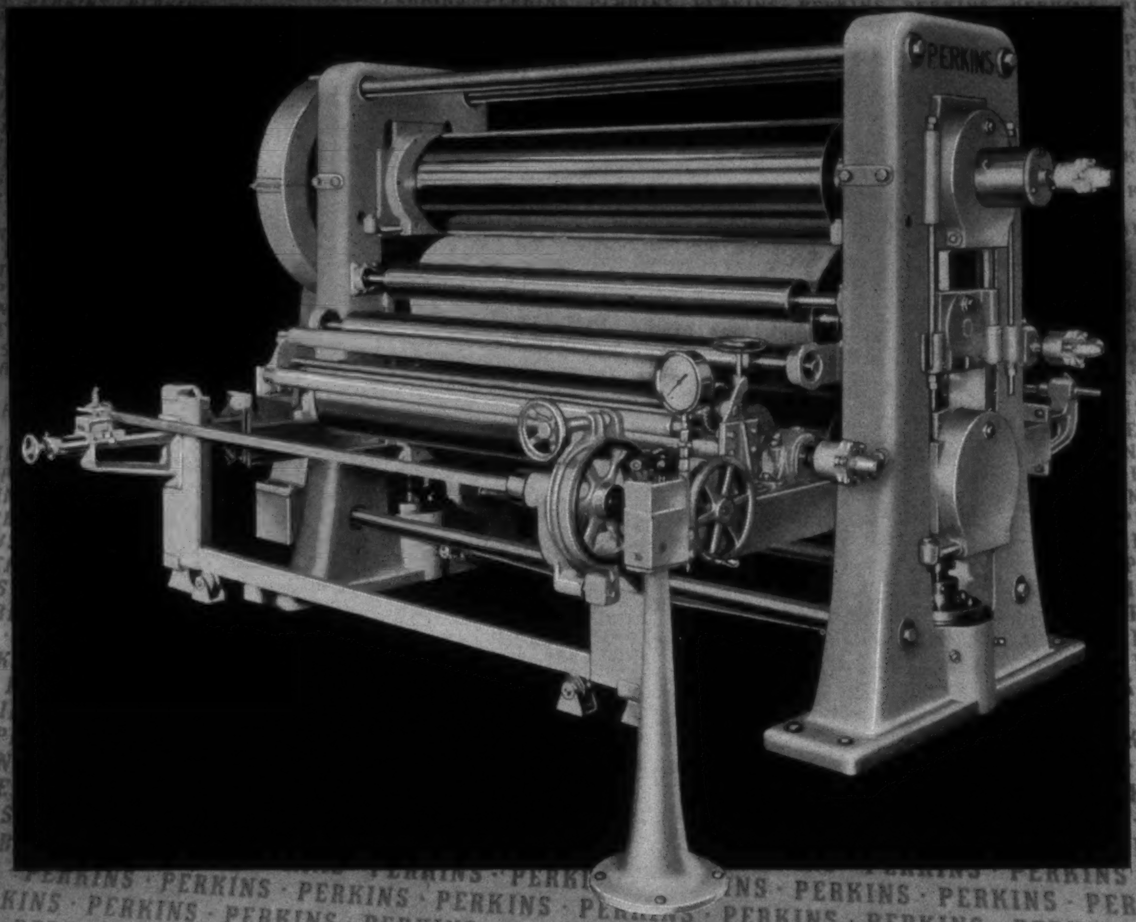

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Of course, he's talking about his

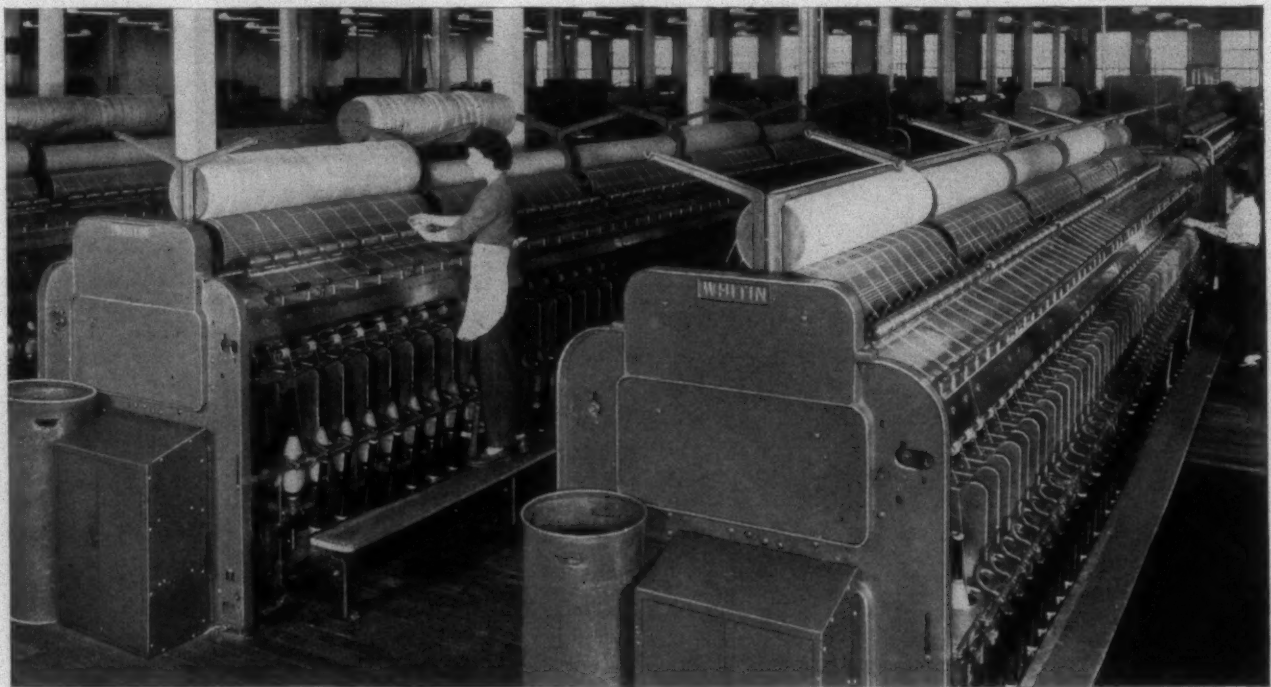
WHITIN Wool Spinning Frames

This is not an isolated case — mill men in all branches of the woolen industry have enthusiastically reported similar results.

The Whitin Model "E" incorporates the latest advances that have been made in ring frame spinning, and includes in addition, a number of exclusive features. Simple in design, yet carefully and ruggedly built, these frames are made to give many years of dependable service at a high rate of production.

This frame makes large package spinning practical, decreases direct costs in spinning, spooling, sewing and burling while producing stronger yarns and higher loom efficiency, which contributes toward lower costs in subsequent operations.

Whitin Model "E" frames may well be the answer to your wool spinning problems. Why not investigate?



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Write today for descriptive literature on Whitin Model "E" Wool Spinning Frames.

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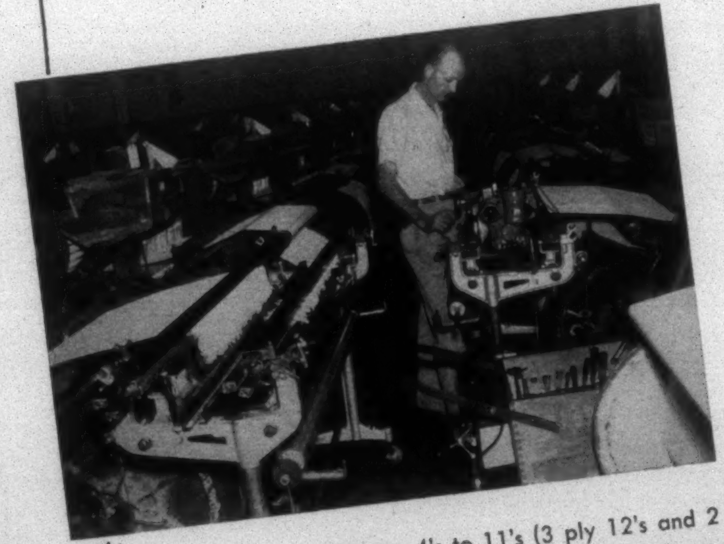
USTER Tying Speeds Production on Vital Cotton Duck

Beams run out faster when you weave cotton duck. Loom down time becomes an important factor in production when more warps have to be tied daily. The "Uster" Warp Tying Machine saves 30% to 70% on tying time . . . and on down time, and saves on man hours besides. If you run cotton duck or other heavy defense materials, investigate the production-increasing and labor-saving advantages of the "Uster" today.

how Equinox Mill does it!*



The "Uster" at the left is just beginning to tie a previously prepared pattern. Operator at the right is beginning to prepare a second pattern.

Pattern at left is ready for weaving and the "Uster" is beginning to tie the second warp at the rate of 250 knots per minute.

*Using 4's to 11's (3 ply 12's and 2 ply 22's) weaving 8-10-12 oz. Army Duck. Their "Uster" ties 27 to 30 patterns of 3,200 ends a day. Although the number of looms in place has been increased 18%, the "Uster" Warp Tying Machine has saved the time of three people.

- **Ties the entire warp at one "bite"**
- **Precision Mechanism of unmatched speed**
- **Compact — Convenient — Versatile**

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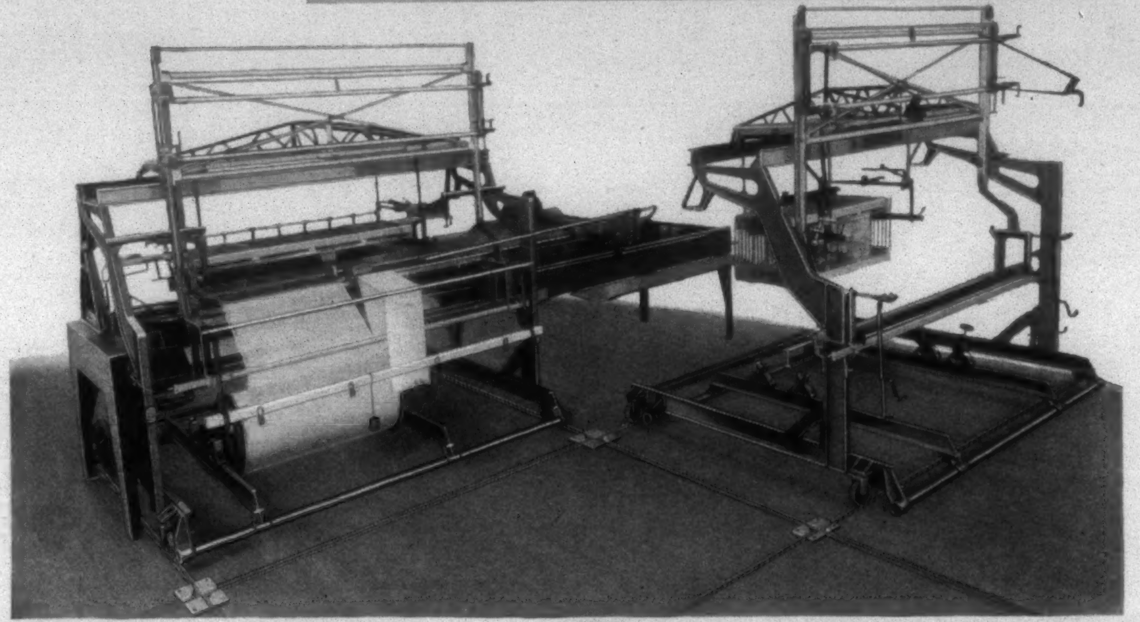
STRAIGHTER WARPS

LOWER COSTS



BARBER-COLMAN MODEL F *Warp Drawing Machine*

The Model "F" Barber-Colman Warp Drawing Machine is designed for mills which have a combination of cam and dobby loom work. This particular model is useful to mills that employ 14 to 18 harness shafts or less, with 8 or less banks of warp stop motion. Any mill weaving gingham, shirtings, dress goods and suitings will find this machine exceptionally useful, especially if quick change-overs in style and pattern are common. This model answers a variety of needs in your warp replacement scheme.

Field reports show up to 3000 Ends per Hour
Draws warps from 10 to 300 ends per inch
Draws from flat sheet or 1 x 1 lease
Draws from single or double beam, or split sheet
Draws 1 x 1 lease in double beam or split sheet

Warp threads are drawn through drop wires, heddles and reed
IN ONE OPERATION
from any predetermined draft

HARNESS FRAME LENGTHS

Size of Machine	Maximum Overall Length of Harness
48	54"
66	72"
86	92"

MODEL "F" MACHINE CAPACITIES
The Model "F" can be furnished in the following capacities at no difference in cost:
Reed, 14 Harness, 8 Banks of Drop Wires
Reed, 16 Harness, 6 Banks of Drop Wires
Reed, 18 Harness, 4 Banks of Drop Wires
DROP WIRE CAPACITY: 9/32" through 3/4" wide

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- Cotton Yarns
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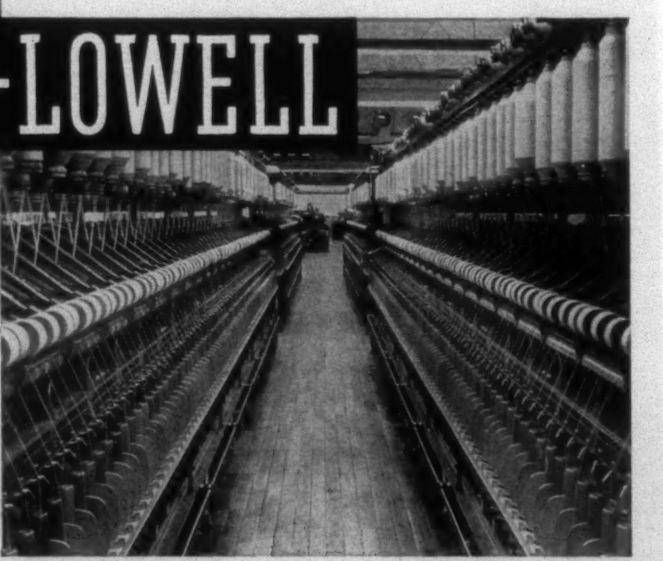
for over a year in successful operation . . . at the ABBOTT WORSTED MILLS

The first production unit in Massachusetts of the new SACO-LOWELL WORSTED SYSTEM has been installed and maintained on a production basis at the Abbott Worsted Mills in Lowell for over a year. The unit manufactures soft knitting yarns in counts ranging from 14s to 40s.

This modern worsted spinning operation, with **one preparatory process** between sliver and yarn creates savings in capital investment, floor space and operating costs which no far-seeing management can afford to overlook.

SACO-LOWELL



(Upper Left) The wool top is processed through two operations of Warner-Swasey pin drafting before being creeled into the roving frames.

(Lower Left) A close-up illustration of the Saco-Lowell roving frame equipped with the FS-4 drafting system designed specifically to accommodate long staple fibers.

(Lower Right) Looking down an alley between the new Saco-Lowell spinning frames equipped with the SS-4 long fiber drafting element. Note the general cleanliness of the room which, together with the use of these completely modern frames, assures a high production of fine quality yarn.

A COMPLETE TECHNICAL DESCRIPTION of this new system is given in a 16-page brochure. You are invited to write for the "Saco-Lowell System for WORSTED SPINNING."

SACO-LOWELL

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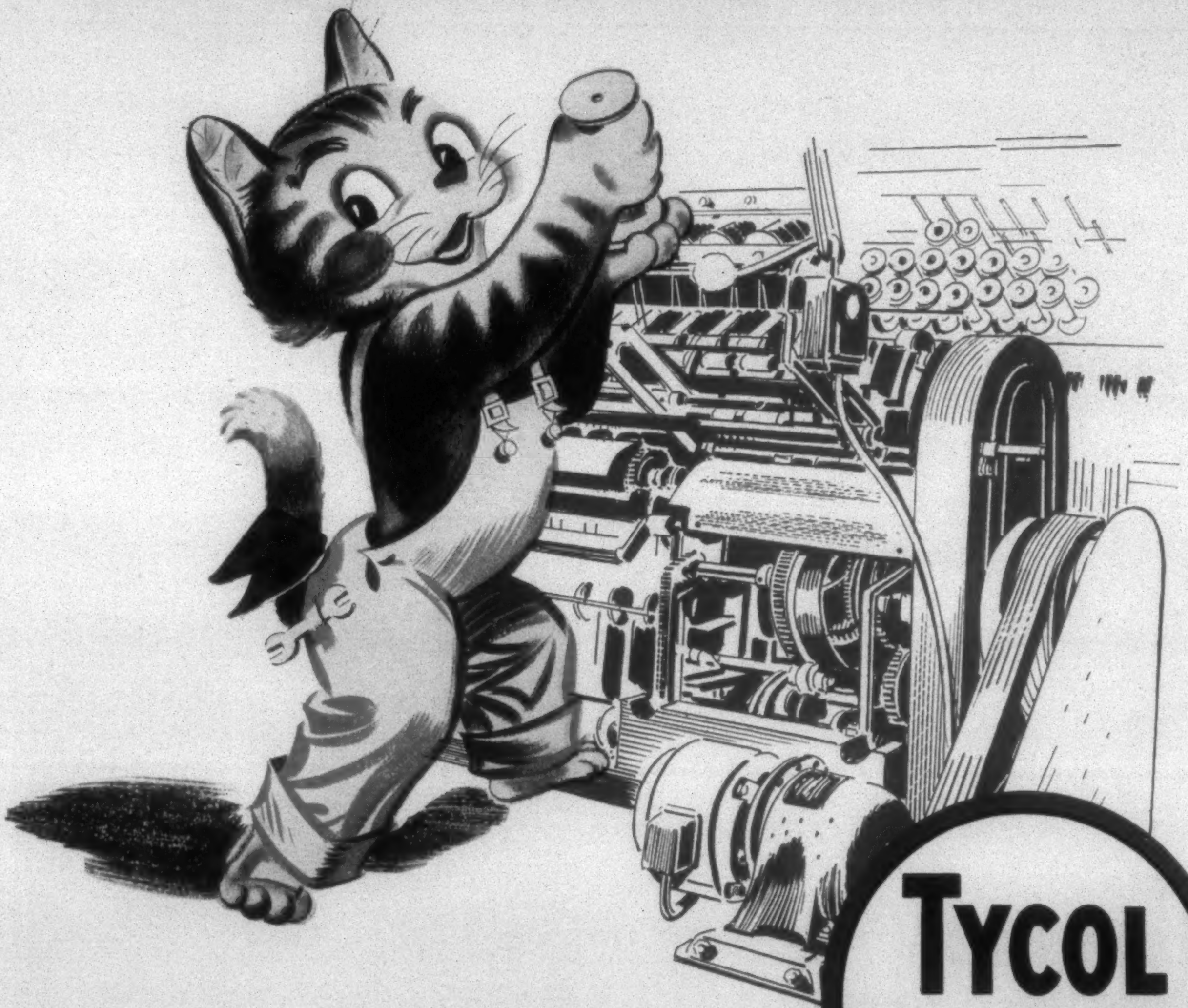
"Tycol Alweave cuts power consumption... lessens tube loss... lowers equipment down time"



Check! Tycol Alweave Textile Oils reduce thread breakage —hold spindle drag and bolster losses to a minimum. Their high stability and easy scourability let mills operate at top production speeds, with far fewer stoppages.

Specially designed Tycol Alweave Oils are available in a wide range of both mineral and compounded grades. They'll step up efficiency in every mill process.

Learn more about Tycol Alweave Oils. Get in touch with your nearest Tide Water Associated office today.

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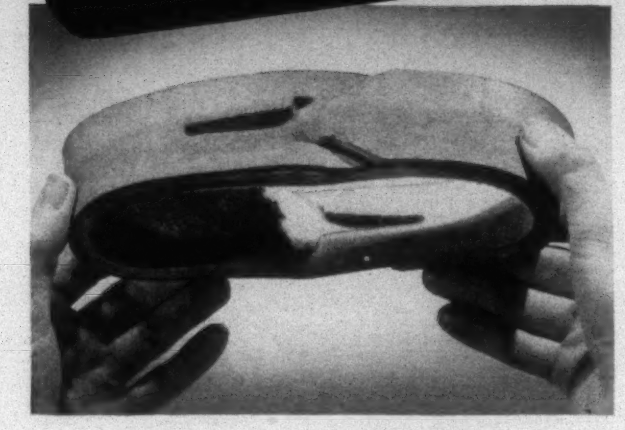

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60 SECOND INSTALLATION
The picture tells the story!

Engineered to your individual stroke requirements. Write for full particulars and estimated cost.

*PATENT NO. 2,347,539

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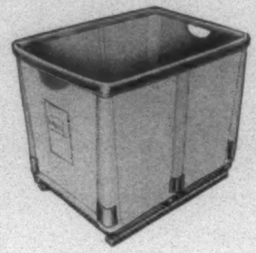

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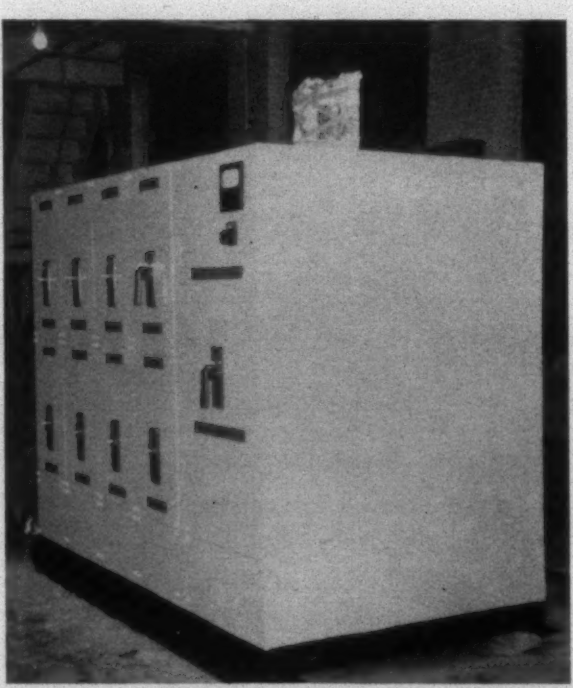

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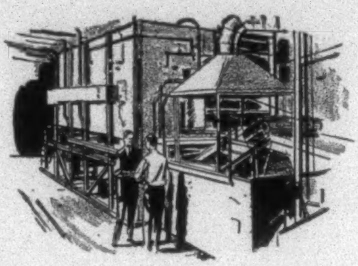

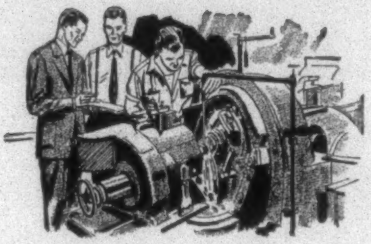

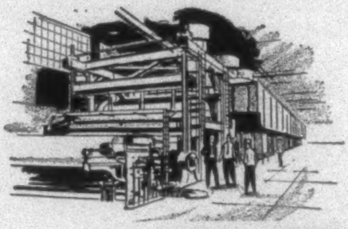

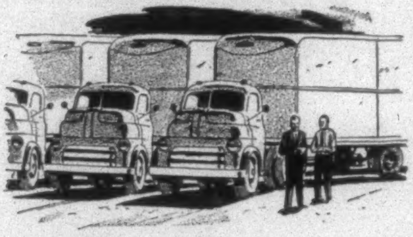

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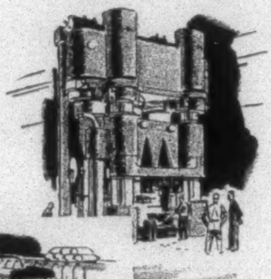

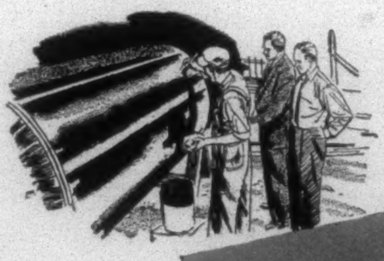

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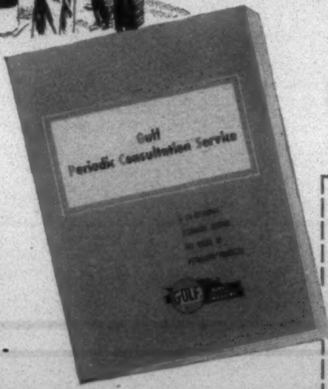

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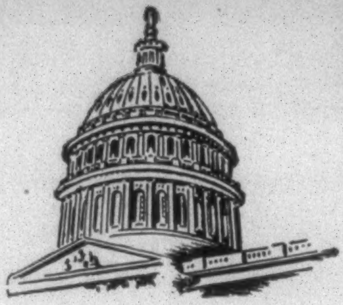


WATCHING WASHINGTON

[Exclusive and Timely News from the Nation's Capital]

The Taft-Hartley Law is being sabotaged and whittled away through decisions of N.L.R.B. foreign to its intent, Senator Taft has told the Senate. He cited over a dozen recent decisions which he said run counter to the law's clear meaning. At the same time, Chairman Barden of the House Labor Committee launched a sweeping inquiry into controls over wages and labor disputes vested in the new Wage Stabilization Board by a Truman executive order.

Taft denounced Truman's unwillingness to accept amendments to the labor law, and the President's insistence on repeal or nothing. He said Truman's executive order setting up W.S.B. does not nullify the Taft-Hartley Law, but said it is a move to by-pass the law in "a completely extra-legal way."

The Ohio senator asserted that recent decisions directing employers to reinstate workers found guilty of violence and assaults in strikes are contrary to the law and decisions of the courts. He asserted that the non-Communist oath provision has been nullified by N.L.R.B.

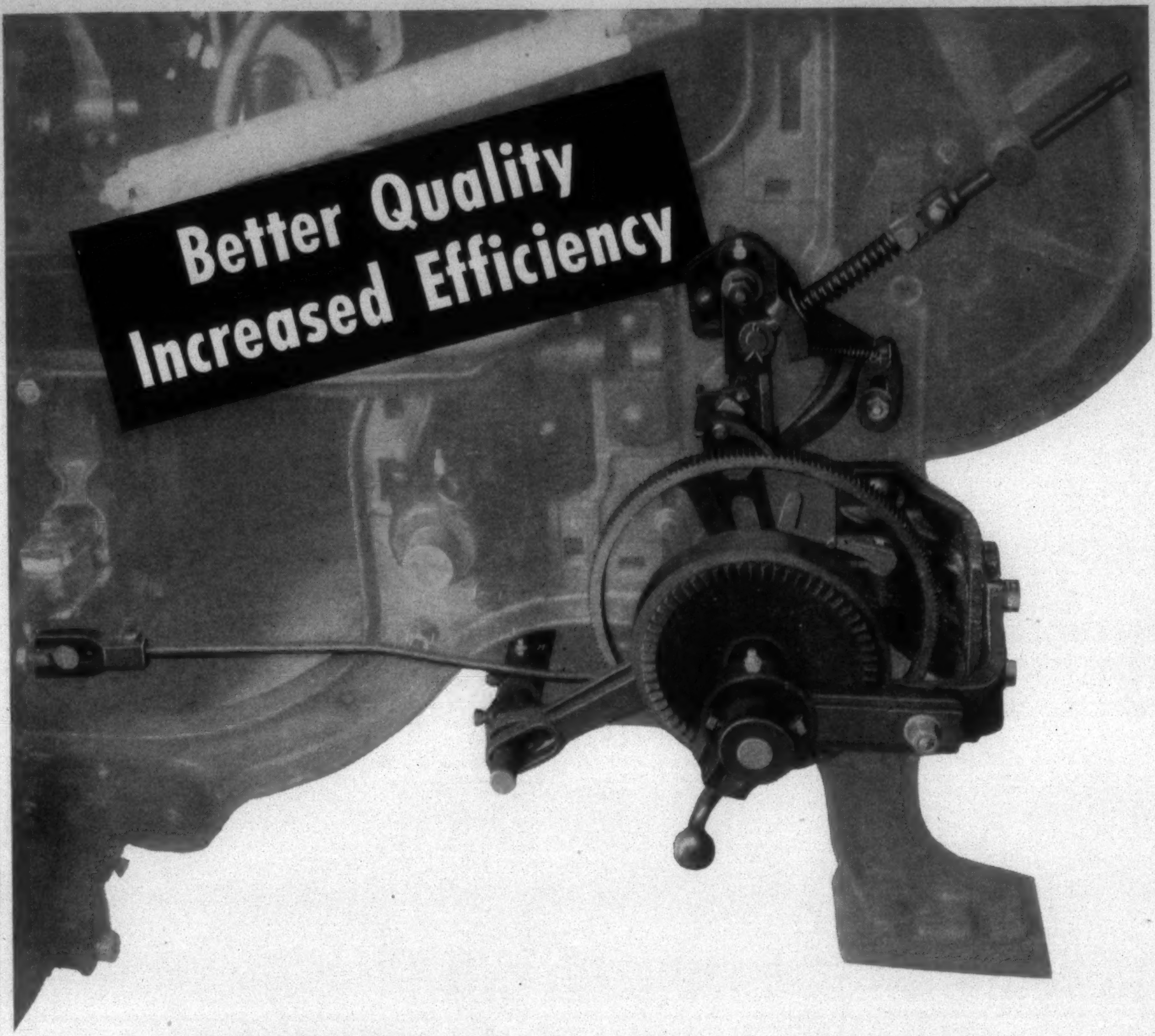
Barden named an 18-member sub-committee to hold hearings and find out what changes in labor relations and procedures are being made by new agencies set up under the defense effort. He defined his committee's jurisdiction, and told the sub-committee to "scrutinize those aspects of the economic stabilization program which fall within its jurisdiction."

The action of Barden came almost as a bombshell as W.S.B. was moving to assume powers more far-reaching than held by the old War Labor Board. He named it as a permanent sub-committee, charged to "exercise continuous watchfulness of the execution by administrative agencies concerned of any laws, the subject matter of which is within the jurisdiction of this committee."

Taft's action in the Senate, and Barden's move in naming a sub-committee, is a direct challenge to Truman's plan to remove wage changes and labor disputes from under the Defense Mobilization Act. Truman's executive order, issued at the behest of union leaders, had the effect of removing virtually all labor relations from under existing laws.

Extension of the price control act after its expiration on June 30 hangs in the balance. The law is likely to be extended for 60 to 90 days by a joint resolution, but its most active proponents doubt if it can be given more than this temporary lease of life.

Opponents of price controls in Congress assert that the



BAHAN ROPER LET-OFF ASSEMBLY

with new type non-locking gears

Increased operating efficiency and improved fabric quality are results to be expected when you equip your looms with BAHAN-BUILT Roper Let-offs. These assemblies have gears with new machine-cut teeth that never lock or "hang-up." Shipped complete with all necessary parts in individual boxes for easy installation. Individual parts may be ordered separately if desired.

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present law has been used by Truman's economic planners to set up tight economic controls that amount to state Socialism. They charge the law has been diverted from its real purpose to creating a permanent managed economy, with permanent controls lodged in federal bureaucrats.

Questioning of Acheson by the Russell Joint Committee quickly broadened from MacArthur's dismissal into an inquiry of the whole China and Far Eastern policy of this Administration. Like members of the Joint Chiefs of Staff, Acheson had a convenient memory. It failed utterly at some crucial moments.

Acheson's testimony gave no indication the U. S. is trying to win victory, or even end fighting, in Korea. He admitted that while the U. S. is doing 90 per cent of the fighting, an end to the war, or even imposing a naval blockade on China, is dependent on a majority vote in the United Nations.

Answering Senator Brewster's questions, Acheson revealed that the U. S. is in a war which it cannot end, or use its full resources, or use its strategic advantages in the fighting area. Brewster said that this is an abject surrender of this country's sovereignty, and reduces it to a status, in the U. N. picture, of a pre-World War I colonial possession.

Some parts of the Constitution have now become obsolete, Acheson inferred in describing "new powers" of the President. He said new conditions create situations "where you have to act so quickly" in sending troops abroad that permission of Congress cannot be sought. He said consent of Congress is not needed where formal war is not declared.

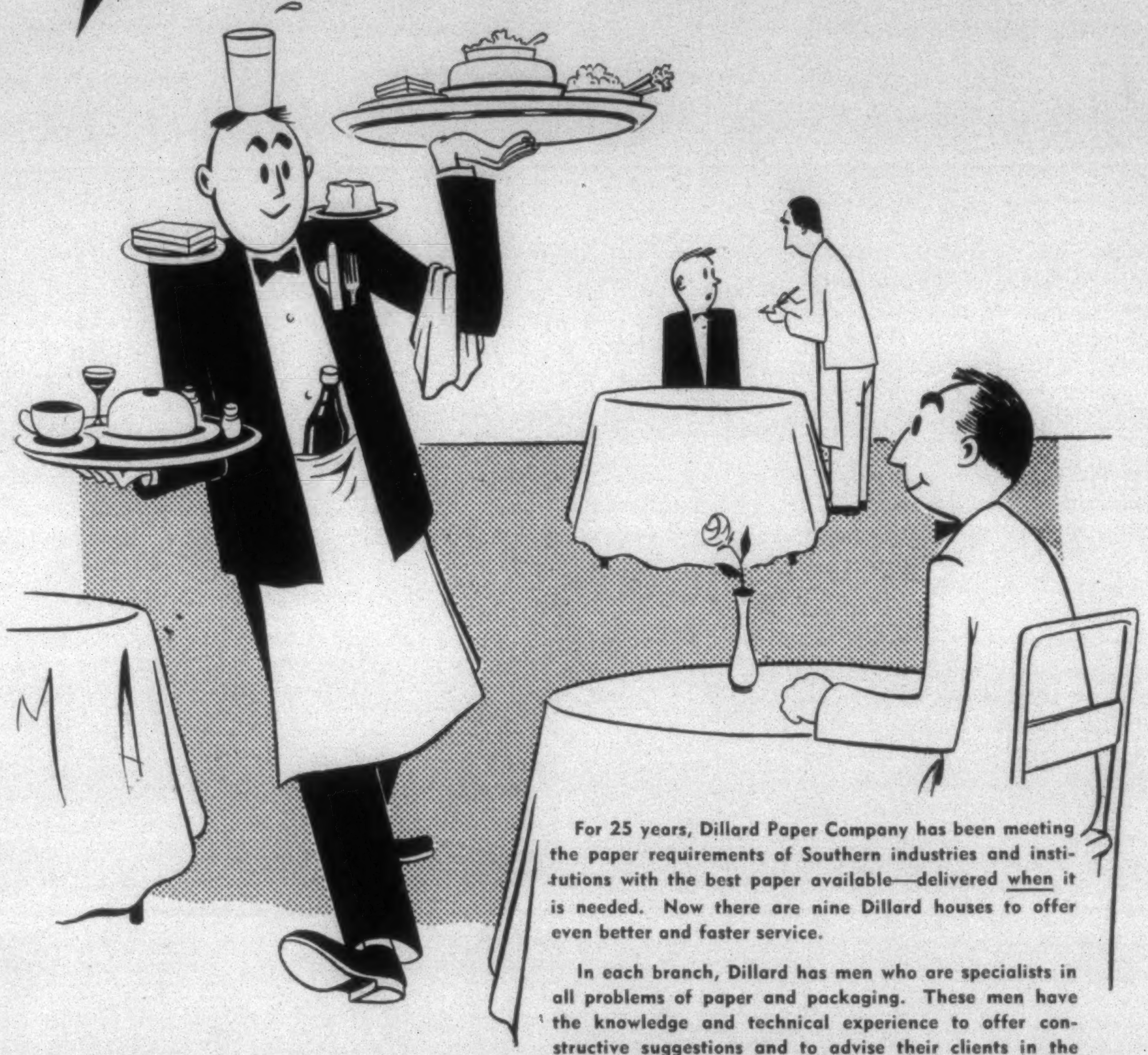
Truman's powers as commander-in-chief give him a wide latitude of authority all his own, said Acheson. Brewster testily observed Hitler and Mussolini claimed the same thing, and also did away with legislative bodies. Acheson could not define the extent to which Truman's commander-in-chief powers stretch over the domestic economy.

With a new and unwanted $6.5 billion tax bill coming up, House members are ruefully asking what has been done with all of the billions in money given for national defense since the war's end. Every tax increase has been for this purpose. Now the question is how did Truman and his crowd spend the money?

Departure of Acheson from the Cabinet is expected momentarily as Truman's leaders in Congress demand his ouster. Truman is resisting the pressure, for he leans heavily on Acheson; it's said he fills one of the blank spots in the Truman personality. Yet in no sense is the confident and assured Acheson one of the Truman "cronies."

Party leaders are making a minute spot check of public sentiment before Truman decides whether to attempt a new whistlestop tour of the country. An information chart showing each town that Truman may visit, what it is thinking about, and its attitude toward Truman and his program, is being prepared. It will enable Truman to talk home problems and issues at every stop.

★ WHAT SERVICE!



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WHAT OTHERS ARE SAYING

The June Graduate

IN CONNECTION with the much-discussed problem of handling inductions into and deferments from military service, many opinions have been offered by educators and engineering groups. Although conflicting views have been expressed as to procedure, there seems to be general agreement as to the urgent need of more technical men to meet the needs of our stepped-up industrial preparedness program in addition to normal requirements.

In this respect, it has been estimated that openings in industry for young men with engineering training represent from two to three times the number that will graduate from technical schools and colleges this June. This situation offers the graduates considerable latitude in the choice of making connections.

Generally, the remuneration offered student engineers has advanced in line with the increased cost of living, but it would be a mistake for an applicant to permit such consideration to outweigh opportunities for gaining worthwhile experience and subsequent advancement, particularly since some 25 per cent of the young engineers at present employed by industry are said to belong to the armed forces reserve. In other words, it is the long-range view that should prevail, consistent, of course, with a reasonable remuneration.—*Combustion.*

Why We Must S. I. N.

(STOP INFLATION NOW)

Military victories
Cannot repel ALL enemies
Who would destroy our nation.
Prosperity and peace demand
We quickly banish from our land
Another foe—inflation.

TOO many people think inflation is something mysterious, and is understood only by economists. It is as simple as this:

It is like two children of equal weight on a seesaw, with one child representing goods and services, and the other representing buying power. With both children weighing the same, they should balance each other. But if pressure is exerted at either end, the other will rise out of balance.

There are various causes of inflation. One is when people have plenty of money to spend, but little to buy in the stores. The prospective buyers bid up the price of the things they want to buy. Another cause is the increasing of purchasing power by extension of credit to the point where future income is heavily mortgaged for an abnormally long period, even beyond the life expectancy of the debtor.

What actually happens in both cases is that the value of the dollar shrinks. During inflation all forms of savings, government bonds, insurance policies, pensions and annuities, the piggie bank or can of sugar in the cupboard suffer. For an example, let's see what happens to government bonds.

Suppose that in 1941 you purchased a $100 government bond, for which you paid $75. In 1941 that $75 would have bought a man's Easter outfit—$5 for shoes, $5 for a hat, $30 for a suit, $30 for a topcoat, and $5 for a shirt, ties and socks. Today those same items would cost just about twice as much and your $100 would, in fact, be the equivalent of $50, with the balance of its purchasing power consumed by inflation. The smart thing to do would be to put that $100 away again until normal times return— until the pressure has been removed.

The first sufferers from inflation are those of us who planned for our own future and for the future of our families—the 83,000,000 of us who own life insurance policies of all sorts, the millions with savings accounts and government bonds, the millions living on pensions and other fixed incomes, with particular emphasis on the so-called "white collar workers" or others on salaries. Inflation decreases the standard of living. It doesn't matter whether you are living on a weekly budget of $50, or $100, or even more; you must make cuts in some items to bring your budget into balance. It follows, therefore, that the only thing we, as individuals, can do during an inflationary period, is to buy as little as possible of those items which are absolutely necessary; to leave our money on deposit, as much as possible, with our banks, with our insurance companies, yes, and in government securities, until such time as we can buy a dollar's worth with every dollar spent.

Before that is possible, of course, the government, as well as we individuals, will have to cut unnecessary spending, too, particularly credit spending.

No one argues with the fact that we must build our national defenses and that, therefore, the government has first call on the materials for defense. If we can expand our production of such items as steel, rubber, aluminum, wool and cotton cloth, leather, and other necessary goods, there is more likelihood there will be enough of these materials for the manufacture of consumer goods after the government has purchased what it needs.—*Consolidated Textile News,* Consolidated Textile Co., Inc.

Diversified Textiles

THERE is more than passing significance in the fact that the South Carolina Cotton Manufacturers Association changed its name to the South Carolina Textile Manufacturers Association at its annual meeting.

The members explained that the change was made because many of them head plants that process rayon and other synthetic fibers. And therein lies an important part of the story of the recent development of South Carolina's textile industry. When the association was organized the word "cotton" in its name was fitting. The product of the state's textile industry was limited almost entirely to cotton cloth —and plain, unfinished print cloth at that, just about the cheapest grade among textiles.

But times have changed. As South Carolina's "industrial revolution" has progressed, the landscape of the state has been literally dotted with modern plants manufacturing cloth made of synthetic fibers and, in later years, plants making the fibers themselves. Finishing plants have sprung up on all sides. And that is only part of the story. This development has brought with it, too, a virtual revolution in cotton textiles. The plants which formerly specialized in print cloth now manufacture "fine goods" made of cotton.

This has been due in part to an effort on the part of our manufacturers to get away from the cheaper grades and, perhaps even more, to the improvements science has made in cotton fibers. These improvements have given cotton added qualities which make it suitable for the fine materials that go into milady's evening dress, to say nothing of the functional fabrics for military use and sports and work clothing.

South Carolina should learn from its textile industry a lesson it can apply to its industry as a whole. The textile industry has diversified in order to avoid staking its existence on one single fiber or one single process. The state must balance its industrial development in order to avoid staking its economic future on a single field of industry.—*Greenville* (S. C.) *Piedmont.*

Clemson Textile School

THE South Carolina Cotton Manufacturers Association met at Sea Island, Georgia, with many representatives of the industry in Spartanburg attending and C. B. Hayes, of Pacific Mills, Lyman, presiding as president of the organization. One of the most interesting features of the meeting in Georgia was a report made to the South Carolina Cotton Manufacturers Association of the progress at Clemson College in the development of Clemson's Textile School by Dr. R. F. Poole, president of that institution. It has been through the Sirrine Foundation, the industry has sponsored the development of this school, until as Dr. Poole reported, it is the "best equipped textile school in the world" with a faculty that knows "how to use it."

Of the objectives of the school Dr. Poole has this to say:

"Through the foundation's efforts the textile faculty can be classed as the best in the country. It is composed of scholars, scientists, and practical teachers, and is further fortified by the interest of teachers and research workers in physics and agriculture. The philosophy of the school centers around educating young men in the broad concepts of textiles. The faculty is interested in securing answers to problems that affect fibers used in the many processes of textile manufacturing and in inspiring the students with new and useful approaches to efficiency and service." —*Spartanburg* (S. C.) *Herald-Journal.*

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textile bulletin

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European Impressions

Many times we have resented statements made, or stories written, by persons who made hurried trips through the South and acquired erroneous impressions based upon the limited or casual contacts which they happened to make.

We recently returned from a seven-week trip to Europe, during which we visited France, Belgium, Holland, Norway, Sweden, Denmark and England, and we acquired certain impressions but those impressions are based upon limited contacts and we therefore hesitate to record them.

People in the United States realize that whatever happens in Europe will have an important bearing upon their future and we have had so many inquiries that we feel that we should give our impressions even though they are based upon contacts and information which does not insure their accuracy.

As the question most often asked us is "Do the Europeans expect war," we will begin by saying that we found very few who anticipate war.

They appear to base their opinions upon the belief that Russia knows that the United States has a large stockpile of atomic bombs, with bombers located close to Russia, and can and will do terrific damage to Russian cities when and if that country makes an aggressive move.

We found many who doubt that Russia actually has the atomic bomb.

The following are our impressions based upon contacts made during our visit.

France seems to be well upon the come-back trail but has a large Communist group which may disrupt her progress.

The Germans overran France so quickly that it was not necessary to destroy buildings or cities and France does not have a rebuilding problem of any great magnitude.

The French people, especially those upon the farms, appear to be working hard and should there be no war the people of France should be in good financial condition within the next two years.

Belgium and Holland have made the greatest come-back of any countries in Europe and that is based upon the fact that the people generally have determined to do whatever amount of hard work is necessary for their recovery and both countries have colonies which did not suffer by reason of the war.

We met several Dutch textile manufacturers and were impressed with their knowledge of textile manufacturing and the progress they were making in modernizing their mills.

Norway, in the far north, is handicapped by the heavy taxation under its Socialist government but the people looked healthy and well fed and well dressed.

Only four per cent of the land in Norway is tillable and they have to depend, to a large extent, upon fishing and on wood pulp from their great forests.

They are doing well in fishing because they have developed a system somewhat similar to radar through which they locate schools of fish in the ocean, definitely determining their size and follow them until they are near enough to land to notify the fishing boats.

Many of the textile mills in Norway, and one of the two rayon manufacturing plants, are operated by young men who graduated from the School of Textiles at North Carolina State College and we had the pleasure of visiting several of their plants.

The people of Norway are somewhat jittery over the possibility of being overrun by Russia in case war comes.

Norway, Sweden and Finland all come to one point in the north and the Russians would not have to travel far if they advanced through Finland.

One Norwegian, who had recently been in Finland, said that while a large portion of that country is not occupied by Russia they are living in deadly dread of what may happen to them. He said that during the entire time he was in Finland he did not see any man smile.

Those who have read the interesting book Kon-Tiki, which describes the trip of six Norwegians made on a raft from Peru to the South Sea Islands, will be interested to know that we visited and inspected the Kon-Tiki raft, which has been towed to Oslo, and we spent some time talking to two members of the crew who made the noted trip.

Having flown from Brussels to Amsterdam and then having taken a lengthy 5½-hour flight directly north to Oslo, we took another plane from Oslo to Stockholm, Sweden.

Sweden managed to stay out of World War II but, because of her proximity to Russia, her people are jittery and expect an invasion from Russia if war comes.

Stockholm is a city built on 11 islands and in which nearly everyone lives in an apartment house. There are very few individual homes. A large percentage of the people own motor boats.

Flying from Stockholm to Copenhagen, Denmark, we found the most American-type city in Europe with about 80 per cent of the people of Denmark living in Copenhagen.

They have a very large production of poultry and dairy products and would be doing very well if the English had enough money to buy those products as they did prior to World War II.

Denmark has no means of defense and was quickly

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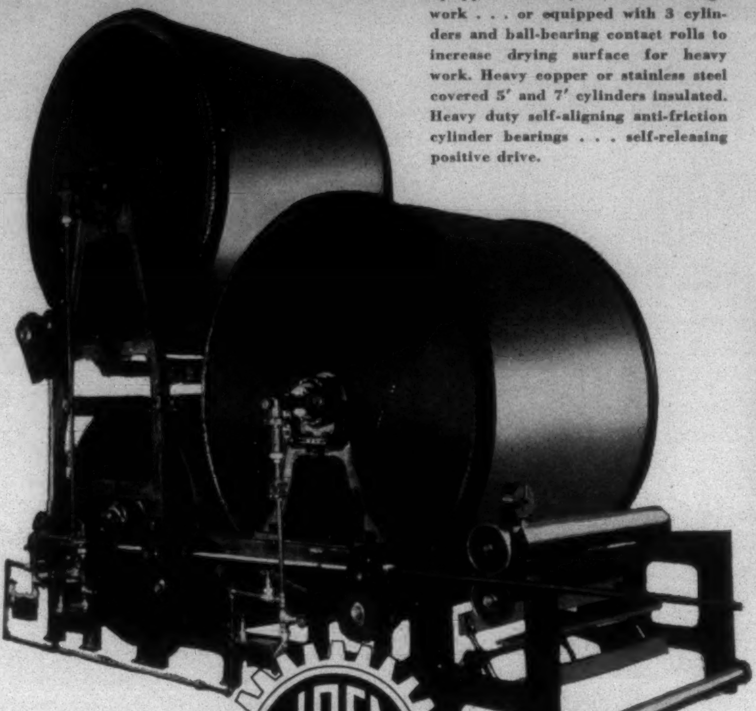

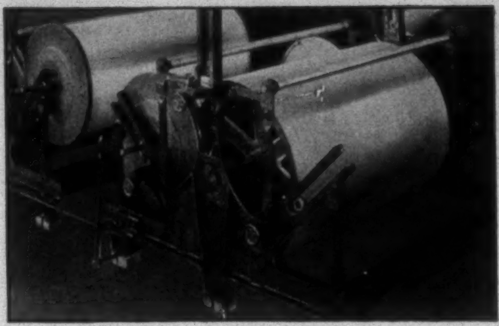

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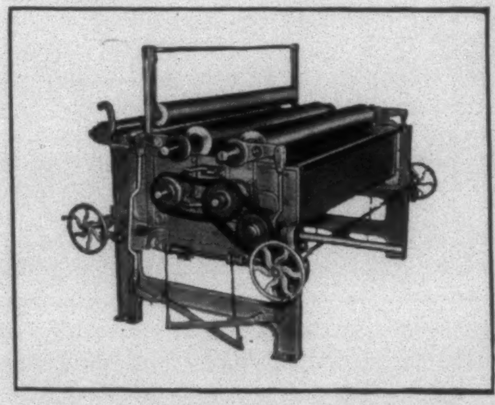

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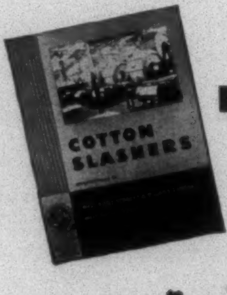

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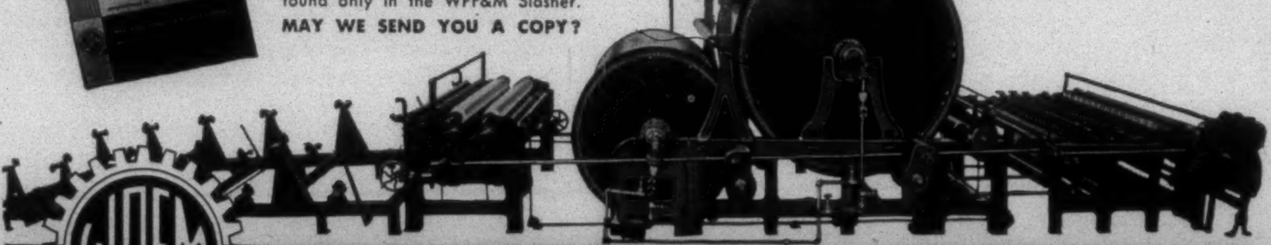

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overrun by the Germans in World War II. They do not see how they could resist a Russian invasion.

We flew direct from Copenhagen to London and landed in a rainstorm which is always to be expected in England.

We attended and enjoyed a three-day textile conference at Brighton, which is the Atlantic City of England, and while there met many fine Englishmen.

While in England we acquired the impression that the people of England more than those of any other country are not settling down to hard work.

While at Brighton we visited a nearby farm operated by some rather well-to-do people but the wife of the owner was having to feed and milk the cows because she could not find any persons who would accept employment for such work.

TEXTILE INDUSTRY SCHEDULE

— 1951 —

June 29-30—Summer outing, **PIEDMONT SECTION, A.A.T.C.C.**, Ocean Forest Hotel, Myrtle Beach, S. C.

Aug. 23-24—**TEXTILE QUALITY CONTROL CONFERENCE** (sponsored by textile committee of American Society for Quality Control), Clemson House Hotel, Clemson, S. C.

Sept. 8—**SOUTHEASTERN SECTION, A.A.T.C.C.**, Columbus, Ga.

Sept. 12—**A.A.T.T.**, Builders Club, New York City.

Sept. 13-14—Fall meeting, **FIBER SOCIETY**, Swampscott, Mass.

Sept. 20-21—Annual convention, **SOUTH ATLANTIC COUNCIL OF INDUSTRIAL EDITORS**, Asheville, N. C.

Sept. 22—**PIEDMONT SECTION, A.A.T.C.C.**, Charlotte Hotel, Charlotte, N. C.

Oct. 3—**A.A.T.T.**, Builders Club, New York City.

Oct. 4-5—Annual convention, **CARDED YARN ASSOCIATION**, Carolina Inn, Pinehurst, N. C.

Oct. 17-19—Annual national convention, **AMERICAN ASSOCIATION OF TEXTILE CHEMISTS & COLORISTS**, Statler Hotel, New York City.

Oct. 18-19—Annual convention, **NORTH CAROLINA COTTON MANUFACTURERS ASSOCIATION**, Carolina Hotel, Pinehurst.

Nov. 7—**A.A.T.T.**, Builders Club, New York City.

Nov. 8-9—Annual meeting, **TEXTILE RESEARCH INSTITUTE**, New York City.

Dec. 1—**SOUTH CENTRAL SECTION, A.A.T.C.C.**, Hotel Patten, Chattanooga, Tenn.

Dec. 3—**AMERICAN ASSOCIATION OF TEXTILE TECHNOLOGISTS**, Builders Club, New York City.

Dec. 8—**SOUTHEASTERN SECTION, A.A.T.C.C.**, LaGrange, Ga.

— 1952 —

March 3-7—Spring meeting and committee week, **A.S.T.M.**, Cleveland, O.

April 16-17—Spring meeting, **FIBER SOCIETY**, Clemson House, Clemson, S. C.

April 16-18—Annual convention, **COTTON MANUFACTURERS ASSOCIATION OF GEORGIA**, Boca Raton (Fla.) Hotel and Club.

May 15-17—Annual outing, **CAROLINA YARN ASSOCIATION**, The Carolina, Pinehurst, N. C.

May 15-17—Annual convention, **AMERICAN COTTON MANUFACTURERS INSTITUTE**, Haddon Hall, Atlantic City, N. J.

June 23-27—Annual meeting, **A.S.T.M.**, New York City.

June 26-28—Annual convention, **S.T.A.**, Ocean Forest Hotel, Myrtle Beach, S. C.

Nov. 6-8—Annual national convention, **A.A.T.C.C.**, Boston, Mass.

— 1953 —

Sept. 17-19—Annual national convention, **A.A.T.C.C.**, Stevens Hotel, Chicago, Ill.

— 1954 —

April 26-May 1—**AMERICAN TEXTILE MACHINERY EXHIBITION**, Atlantic City (N. J.) Auditorium.

On each side of the railroad as we went to Brighton there were lush green fields, with low hedges around them, but only occasionally did we see any cattle.

There was a definite shortage of beef in England and it appeared to us that many cattle should be feeding in those fields but there may be good reasons why they are not there.

At the door of the Savoy Hotel in London there were always five or six men meeting cars and depending to a large extent upon tips or "gratuities" as they call them. When we arrived at the Waldorf-Astoria Hotel in New York there was one door man although the Waldorf-Astoria is several times as large as the Savoy.

In the smallest dining room at the Savoy there were 30 waiters although there were seldom that many customers.

As the famous English Derby was run at Epsom Downs while we were in England, we attended, and as there was a horse named "North Carolina," we helped decrease the dollar gap by placing a few bets on him to "show." He came in eighth in a field of 37 horses.

Many were betting upon the horse of Aga Kahn, a fabulously wealthy Maharajah of India, but Arctic Prince, owned by an Irishman, whom the British had twice placed in jail during the Irish disturbances, romped home six lengths ahead with practically nobody betting on him. He paid 40 to 1.

When we reached Epsom we found that it cost four pounds ($11.25) to get admitted to the Tattersals Section in which there were some seats but in which most people had to stand.

We estimate that there were 8,000 English in Tattersalls that day at $11.25 each whereas we had heard that money was scarce in England.

The English are a fine and intelligent people but we definitely gained the impression that a large percentage of them are not willing to do the work and make the sacrifices necessary to recover from the damage done to them during World War II and which is now being done to them by their Labor Government.

As we stated in beginning this editorial, we are writing our impressions based upon short visits and casual contacts and with the full realization that there may be another side based upon information to which we did not have access during our trip.

Can't Bake Lies For Dinner

How completely off-base the Textile Workers Union of America propaganda machine was during the recent Southern textile strike can be illustrated by comparing the union's claims concerning the effectiveness of the strike at five Cone Mills Corp. plants, as compared with actual production at the five mills.

On April 2, when the strike began, Lewis Conn, T.W.U.A. director in North Carolina, along with W. F. Billingsley, manager of the Greensboro-Burlington Joint Board of the T.W.U.A., announced that the five struck Cone plants were crippled by the strike, and production at a standstill. According to these two union officials, who sent their statements to newspapers throughout the state and to the wire services, the strike at Proximity was 95 per cent effective, the strike at the Cone Print Works plant was 98 per cent

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Spartanburg, S. C.

effective, and that the company's Minneola plant in Gibsonville was "completely shut down." They added that only a trickle of workers were showing up at the company's Tabardrey and Granite plants in Haw River.

An actual check inside the mills, and figures released by the company, showed that on April 2, half of the 1,500 workers at Proximity were at work, and that 40 per cent of the personnel at Print Works were working. At Tabardrey and Granite, half of the workers were going in the plants, and at Minneola, 25 per cent of personnel were working. An actual first-hand check by newspapermen substantiated the company figures.

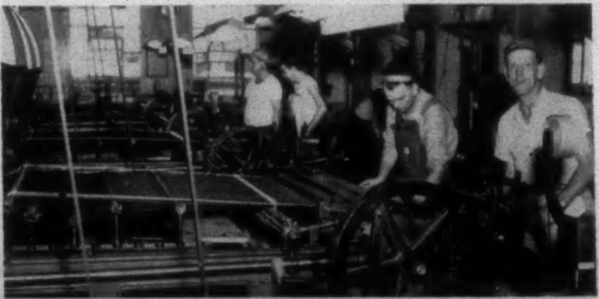
On April 2, the total production at the five struck plants was slightly in excess of 50 per cent of normal, a check disclosed. Yet, union officials on April 3 claimed that the strike "was almost completely effective at the Cone Mills plants—and the strike a complete success."

From the day the strike began until the strikers returned to work May 7, the union continued its claims regarding the effectiveness of the strike. The union charged that the company was using "children 16 years old" to maintain production, and also added that the company was "robbing the cradle and the grave" to find workers. Neither of these charges were true, and later, after a union official asked the local welfare department to investigate cases where youngsters were working in the mills, he had to back down on his charges, when no illustrative example could be found.

While the union continued its claims regarding the effectiveness of the strike, in actuality, production in the mills began to pick up, by three to six per cent a day. On April 30, the Proximity Plant was up to 95 per cent of normal operations, and the Print Works up to 85 per cent. Production at the two Haw River and Gibsonville plants had gone up to the 70 per cent mark. And production at the three smaller plants in Haw River and Gibsonville would have been greater, except that Cone workers were not afforded police protection at the gates, due to the negligible police forces in the two communities.

By the time the strike ended, and just before the pickets went back to work, Proximity Plant was running at normal operations; Print Works was up to 95 per cent of normal operations, and the three smaller mills were up to 75 per cent of normal production.

Cone Mills recently released figures, which were verified by newspapermen on personal tours of the mills, that production at the five struck plants averaged 75 per cent of production at the plants during March, the previous month. And with a seasonal slump in the textile business in April output that month, though off when compared to March, was not too far from the production figure the company would have set, regardless of the strike.



There is no evidence of production being affected in the slasher room of Cone Mills Corp.'s Proximity Plant as the result of April's textile strike. This photograph was taken during a period when the T.W.U.A. claimed to have virtually halted operations at Proximity.

Another interesting note to the union's propaganda warfare was the way it handled the three attempts on the part of the T.W.U.A. to shut down the non-union Cone Mills White Oak Plant in Greensboro. On three different occasions during April, the union took its picket lines from Proximity and Print Works and threw them around White Oak in an effort to stop production there. Actually, only 25 of the 2,500 workers at White Oak stayed out of work because of the picket lines. However, union officials claimed that "several hundred White Oak workers had refused to cross the picket lines."

However, when even the pickets could see the ineffectiveness of picketing the White Oak Plant, union officials changed their strategy. They announced that they were going to abandon picketing at White Oak, in favor of an organizing campaign inside the mill. This, too, proved a dismal flop.

To newspapermen who toured the struck Cone plants and who also watched the picket lines in action, the failure of the strike was clearly apparent. During the course of the strike picket lines often dwindled to a handful, and the apathy of the pickets had to be continually boosted by speeches by union leaders, and by string bands, and square dancing on the picket lines.

While union leaders were claiming a "strike victory" in the newspapers and to their members, and announcing that the strike "was completely effective," the pickets who were walking the picket lines could not help but notice the large numbers of workers going in and coming out of the plants.

And oddly enough, at the end of the strike, the union leaders in urging their members to go back to work, unblushingly told them that the strike was a failure. On the day that union locals at Proximity and Print Works met to vote on whether to go back to work, it was the same Billingsley who told them that the union "hadn't been strong enough to close down Cone Mills." He also pointed out that if the strike continued, fewer people would remain out on the picket lines, and the life of the union might be threatened by prolongation of the strike.

Many of the strikers returned to work prior to May 7, disgusted with the strike and with the union leadership that urged it. Many union cards have been turned in recently, and at Proximity, indications are that the union no longer represents the majority of workers and that a decertification election may be in the offing.

Many Cone union members have indicated to neutral observers and to newspapermen that they are "fed up" with the union and tired of being the scapegoats for union politicking at the New York and Washington levels.

Most of the strikers walked off their jobs, after they were led to believe that their demands were just and that April 2 was the time to strike. After five weeks on the picket and relief lines, these workers were urged to go back to work by their leaders, who told them they had won a "victory." To the strikers, this "victory" at most was a hollow one. They have gone back to work without a single one of their pay and pension demands being met. And these strikers went back to work feeling the bitter financial pinch caused by the loss of five weeks' pay.

Their bitterness toward their union leaders is something that has dealt a blow to the union cause at many textile mills in the South and at Cone Mills in particular. Although

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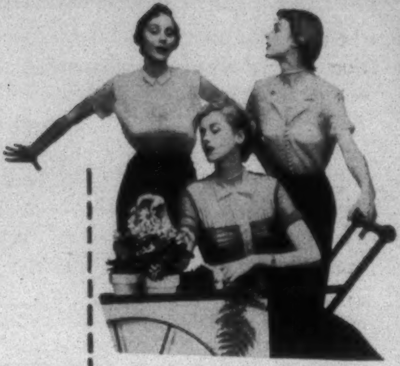

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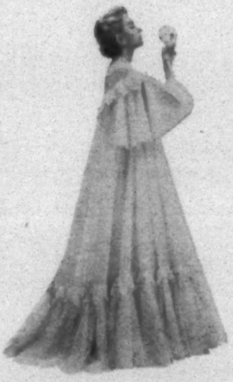
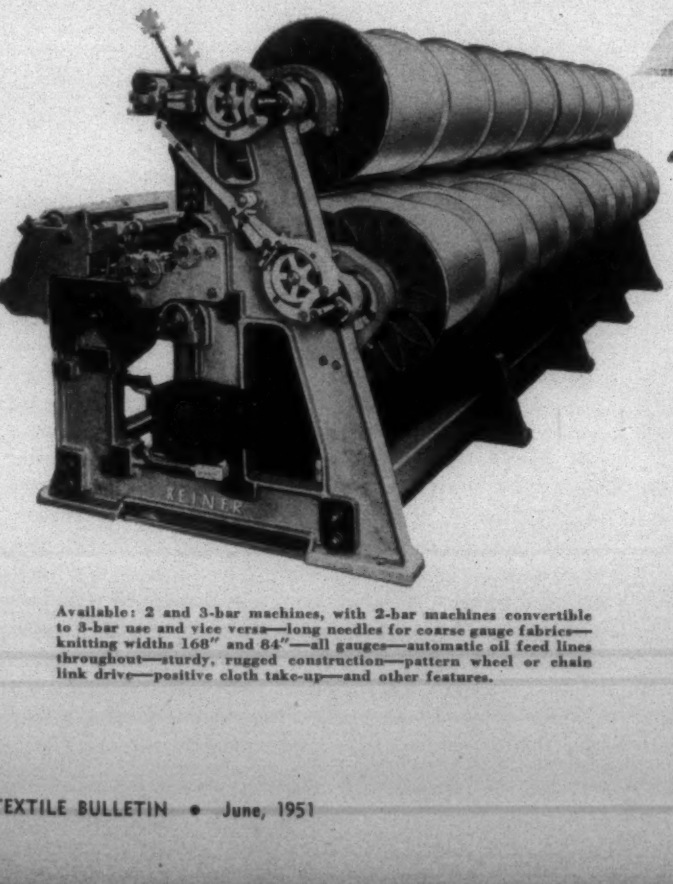


Photos Courtesy William Winkler, Inc.

Mills: Blue Ridge Textile Co., Inc.



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the union leaders claimed the strike was a victory, the question is how many of the strikers believe that. And the answer is very few.

We have a feeling that if an N.L.R.B. election were to be held any time soon in Columbia, S. C., T.W.U.A. members working for Pacific Mills there might shed themselves of union bonds. These people went back to work June 11, having maintained their strike for ten weeks. They had been advised by the local T.W.U.A. business manager that "It is my belief that if we can stand this thing another four to ten weeks, we can beat the company." At a meeting of workers June 10, one member of the union's local executive board said, on the other hand, "Hundreds and hundreds of you people can't go on much longer. We've been out ten weeks and accomplished nothing. We may stay out ten weeks more and accomplish nothing." Thereupon, the assembled workers voted to go back to work, *at terms offered by management before the strike started.* The total wages lost by the striking workers during the ten weeks amounted to more than a million dollars, an average loss of $650 for each worker.

Exactly what the failure of the strike will mean in terms of future union organizing drives and wage negotiations is not certain. However, chances are that the union's cause has been sharply weakened by the recent strike. And in case union leaders forget, the Southern mill worker—both union and non-union—has a long memory. They will remember for a long time that you can't set a very good table with promises, that you can't bake lies and serve them for Sunday dinner.

We stated last month that "management down here doesn't want the union telling it how to run the mills, and the workers themselves don't want the union either, because *they* feel that they are getting along pretty well." This statement seems to have been borne out by recent elections. In Charlotte, employees of Plant No. 2, Calvine Cotton Mills, Inc., turned down representation by the Textile Workers Union of America by a vote of 74 to 42. At Shelby (N. C.) Cotton Mills employees rejected the T.W.U.A. as their bargaining agent by a vote of 334 to 141. Up in Lynchburg, Va., on May 25, the T.W.U.A. might well have stuck to its own kind of knitting. In a National Labor Relations Board election, the union lost overwhelmingly—753 to 136—at Lynchburg Hosiery Mills.

(Note: A limited number of reprints of the editorial, "Emil, George and Lewis," which appeared in the May, 1951, issue of TEXTILE BULLETIN, are available by addressing Clark Publishing Co., P. O. Box 1225, Charlotte 1, N. C.)

Communist Advocate As Advisor

Paul E. Green, author and playwright of Chapel Hill, N. C., has been sent to Paris, France, at the expense of the United States Government as an advisor to a U. N. conference.

We do not know that Paul Green has ever been a member of the Communist Party but he has certainly been a near-Communist and an advocate of many things advocated by the Communists.

When in early 1935, two cotton mills were dynamited at Burlington, N. C., the A. F. of L. cancelled the charter of the local textile union rather than give support to those who had been guilty of the dynamiting. It was then that Paul E. Green and a group of University of North Carolina professors took over in an effort to prevent the dynamiters from being punished.

Walter Pickard, who was at that time an openly admitted representative of Communism and in charge of the Virginia area for the Communists, was brought to Burlington, N. C., and he took charge of the defense of the dynamiters.

Paul Green associated himself with Walter Pickard and the following is a statement he made in a meeting held at Chapel Hill.

> When these boys came down to Chapel Hill to see me about this case, they approached me with the statement that they had been framed by the mill owners; that the mill owners themselves had planted the dynamite. Well, I did not take any interest in that. But I am absolutely convinced after a thorough study of this case, that—say—five of those men had absolutely nothing to do with it; and after being convinced of that, I determined to "go the limit."
>
> I got to know Mr. Pickard, the man who spoke here last; he is an humble, hard-working mill man.
>
> I am glad to see so much interest being manifested in this case. That is one of the things that pleased me about this meeting; that these young students are interested in this thing.
>
> * * *
>
> Constitutions are made for everyone else on God's earth except the laboring man. I count it a privilege to put every cent I can in this case, not that I feel that the mill owners are giants—they must have a system of some sort—I feel like this so strongly that I am asking everyone to help in any way they can.

Paul Green got one of the dynamiters out of jail by personally putting up a $2,000 cash bond but a few days later that man was caught robbing a store at Reidsville, N. C., and sent to the penitentiary.

When the dynamiters were convicted, Paul Green helped raise money for an appeal to the North Carolina Supreme Court but the convictions were upheld and all of the guilty persons served terms in the penitentiary.

Now Paul Green, who was associated with the Communist Walter Pickard in attempting to prevent the punishment of the men who dynamited cotton mills at Burlington, N. C., is sent, at government expense, to be an advisor at a United Nations meeting at Paris, France.

It seems to us that there should be an end to sending Communist sympathizers to United Nations meetings and placing them in position to help the Communist cause.

Willie McGee And The French

We note a press dispatch from Paris dated May 10 in which it is stated that "Socialist members of the National Assembly today adopted a resolution condemning the execution of Willie McGee, convicted in Mississippi of raping a white woman. The resolution said the Socialist Party 'expressed its indignation against political trials which no matter what country, occur so often outside all guarantees safeguarding the rights of the human person.' It added that 'the incidents which accompanied the execution underlined its racist character.' "

We do wish the French would get busy and think about the welfare of their own country for a change. For their edification, Willie McGee, who *happened* to be a Negro, raped a woman, who *happened* to be white. A court established the facts that there was rape, and that Willie McGee was the criminal. The case was something for the people of Mississippi to decide upon, and the business of no one else.

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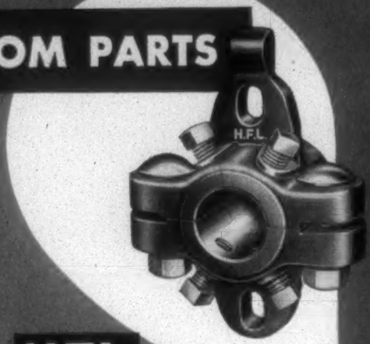

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textile bulletin

VOL. 77 *JUNE, 1951* *NO. 6*

The Georgia Association Meeting

THE new textile pricing order came in for the lion's share of attention as the Cotton Manufacturers Association of Georgia convened at Daytona Beach, Fla., May 16-18. Appearing as an emergency speaker to discuss the order, James L. Rankin, attorney of the American Cotton Manufacturers Institute and himself a textile man, told association members that manufacturers must price their goods at the maximum ceiling or else suffer the consequences. Not only are the highest ceilings possible desirable, Mr. Rankin stated, but they are lawfull as well.

Since manufacturers were forced to have reports in Washington by May 28 as to how they arrived at their ceiling prices or else stop shipping, a special resolution was passed, asking extension of the deadline for filing to 30 days beyond May 28. The resolution was unanimously adopted and promptly wired to Michael DiSalle, price stabilizer.

Mr. Rankin cited what he thought were outstanding weaknesses in the textile pricing order and urged members to use their weight to have them more clearly defined. These were labor, which he said did not cover administrative employees and such things as advertising; ceiling prices on raw cotton and third, other costs contingent to manufacturing.

The speaker stressed that manufacturers must get the top level ceiling in pricing. If they do not, even a "Philadelphia lawyer" cannot help them in pricing upward, once on record, he warned. Also, the law could be "hostile" to manufacturers if they do not find a way to include their administration and sales costs in their base reports, he cautioned.

Mr. Rankin said he knew of no plan to reduce the ceiling price of cotton, but under C.P.R. 37, if manufacturers bought it at lower prices, there was no reason why they should not pass on that saving to the customer.

The A.C.M.I. representative advised manufacturers that they must not ship any goods unless they have filed a price ceiling report in Washington by May 28. This short deadline instigated the resolution asking for an extension. At the same time, he emphasized the importance of record keeping and reports on delivery once mills effect the regulation within their organizations.

Mr. Rankin predicted the government would issue an apparel regulation shortly. This would clear the confusion of definitions in C.P.R. 22 and the latest order, C.P.R. 37, he indicated.

Lamartine G. Hardman, Jr., president and treasurer of Harmony Grove Mills, Commerce, Ga., and retiring president of the association, in his president's address called for leadership and public service from members of the industry.

"The greatest need of this hour is for leadership," Mr. Hardman declared. "We are crying for leaders, capable businessmen, who will devote their energies and talents for the public weal rather than for private gain," he continued. "These times demand such sacrifices on our part. I feel that each of us, regardless of position or special responsibility, should devote some time out of each week to assist in bringing about good government and keeping it with the people.

"We need to participate actively in public affairs, for the good of the whole and not for our special interest. I don't mean necessarily that each should seek public office. But each one here can devote time with the holders of public office and encourage, assist and advise them in making or administering the laws of our community or state or nation. Certainly, it seems to me that our assurance for business growth, security and preservation of our individual freedom is for each of us to devote time and thought in assisting instead of delegating our civic responsibilities to someone else.

"I am appealing to you first as master spinners and men whose vocation is to weave patterns, that you spin a pattern of community service," Mr. Hardman declared. "To no group in all Georgia is there a greater challenge for we indeed are the largest industry in the state. If you spin this pattern, then as you lose yourself in public service, you are automatically reaping rich rewards. This individual freedom, this liberty, so dear, and so precious to us all, can not be purchased on the bargain counters of expediency. Indeed, it is far more than a 'mill end.' It requires all that we have, all our perseverance, our persistence, diligence and vigilance.

"Can you visualize what impact it would have not only in Georgia and the Southland, but throughout the entire United States, if we seriously dedicated ourselves to such a service? It will transform and revitalize our communities. We gain good will; we acquire assets money cannot buy. I believe it is our best assurance for business growth, security, and the preservation of individual freedom."

Rupert L. Murphy, traffic manager of the Cotton Manufacturers Association of Georgia, told the mill men that the textile industry, already perplexed with increased rates and a serious car shortage because of the rearmament program, can expect only more drastic regulations in the future than it has previously experienced. The Office of Defense Transportation, recently created to obtain maximum use of carrier equipment, has been given broad power and authority, Mr. Murphy said in his report on traffic association activities for the year. Tightening of rules and regulations relating to demurrage is only one of the several orders issued which are in the nature of penalty charges to prevent undue delay of equipment, the mill men were told.

Adjustments in motor carrier rates have not been as favorable generally as those made by rail carriers and while there have been a few reductions, several revisions have been made by them to large consuming areas which resulted in substantial increases. Efforts of the committee to have these revisions suspended have not been successful. Express rates have been increased several times during the year and are now on a level such as to practically eliminate them from any important amount of traffic, Mr. Murphy reported.

A sentimental highlight of the convention, and a gratifying scene to those carrying the sentiment of the textile industry, came with the installation of three new officers, all sons of past presidents of the association. Installed as president of the association was Henry W. Swift, executive vice-president of Swift Spinning mills, Columbus, Ga., whose father, Clifford J. Swift, served as president in 1929-30. J. M. Cheatham, president of Dundee Mills, Rushton Cotton Mills and Lowell Bleachery South of Griffin, Ga., and of the Hartwell Mills of Hartwell and Toccoa, Ga., was elected vice-president. His election is tantamount to the elevation to the presidency in 1952, a position his father, the late John H. Cheatham, held in 1935-36. R. H. Jewell of Crystal Springs Bleachery, Chickamauga, Ga., whose father also is a past president of the association, was elected treasurer.

Forbes

Hardman

Swift

Also directors were elected as follows: To serve three-year terms: N. S. Turner, vice-president of Covington (Ga.) Mills; Robert Train, comptroller of Bibb Mfg. Co., Macon, R. L. Swetenburg, Chicopee (Ga.) Mfg. Corp., and L. V. Andrews, Cedartown (Ga.) Yarn Mills. A. C. Link, manager, U. S. Rubber Co., was elected to a one-year term, as director to fill the unexpired office of William R. Elsas, Fulton Bag & Cotton Mills, whose accidental death occurred earlier this year at a hunting meet in North Carolina. T. M. Forbes was unanimously re-elected executive vice-president, and Frank Carter secretary.

In presenting the treasurer's report, Mr. Cheatham, the new vice-president, said the association had operated at an approximate $6,000 deficit for the year. In an effort to prevent a repeat of the situation next year he said a budget had been adopted for the coming year.

In the absence of the chairman of the agriculture committee, Lewis Price, vice-president, Callaway Mills, LaGrange, and the absence of Paul K. McKenney, Jr., vice-president, Swift Mfg. Co., Columbus, public relations committee chairman, Frank Carter, secretary of the association, read those reports.

On public relations Mr. Carter said the association had distributed more than 20,000 booklets last year, had set up a film library, available to members; purchased a tape recorder and had enlisted members to form a speakers' bureau to further interests of the industry, among its more important accomplishments. Mr. Carter gave his report on personnel managers, office executives and cotton buyers divisions.

The greatest need of the Technical Institute is for a textbook that is unbiased on opinions of labor relations in the industry, the chairman of the Technical Institute committee, M. M. Bryan, Jr., president, Jefferson Mills, Jefferson, Ga., said in his report. While some progress has been made in that direction, the need has yet to be filled, he stated. Mr. Bryan said the funds of the vocational education program at Georgia Tech are in jeopardy and urged members to contact Washington officials in the interest of maintaining the funds.

In presenting plaques to the ten mills winning the association-sponsored textile safety contest, Nat S. Turner, vice-president, Covington Mills, and chairman of the safety committee, said that whereas 83 mills had participated during the year just ended, 95 would take part in the program next year.

Lawrence R. Brumby, factory manager of Bibb Mfg. Co., Macon, was elected president of the Textile Education Foundation, Inc., at the ninth annual meeting of the foundation at the convention of the Cotton Manufacturers Association of Georgia. He succeeds Norman E. Elsas, board chairman of Fulton Bag & Cotton Mills, Atlanta.

M. M. Bryan, Jr., president of Jefferson (Ga.) Mills, was elected vice-president, and George H. Hightower, president of Thomaston Mills, treasurer. T. M. Forbes, executive vice-president of the Cotton Manufacturers Association of Georgia, was re-elected secretary.

Investments of the Textile Education Foundation, Inc., are in good shape, Mr. Elsas told members in his president's report. James C. Platt, vice-president of Chicopee Mfg. Co., Gainesville, Ga., and chairman of the executive committee, recommended greater active interest in the textile department of Georgia Tech.

The foundation holds securities amounting to $579,878 in inventory value and $649,708 in market value, according to B. D. Banks, vice-president of Grantville Mills, investment committee chairman. The figures were based on a report made by the Trust Co. of Georgia, Atlanta, and submitted to foundation members. According to the report, approximately 40 per cent of the portfolio is invested in U. S. government securties; 6.7 per cent utility bonds; 5.6 per cent preferred stock, and 47.2 per cent common stock. The over-all yield was estimated at 4.3 per cent, which Mr. Banks termed "especially good."

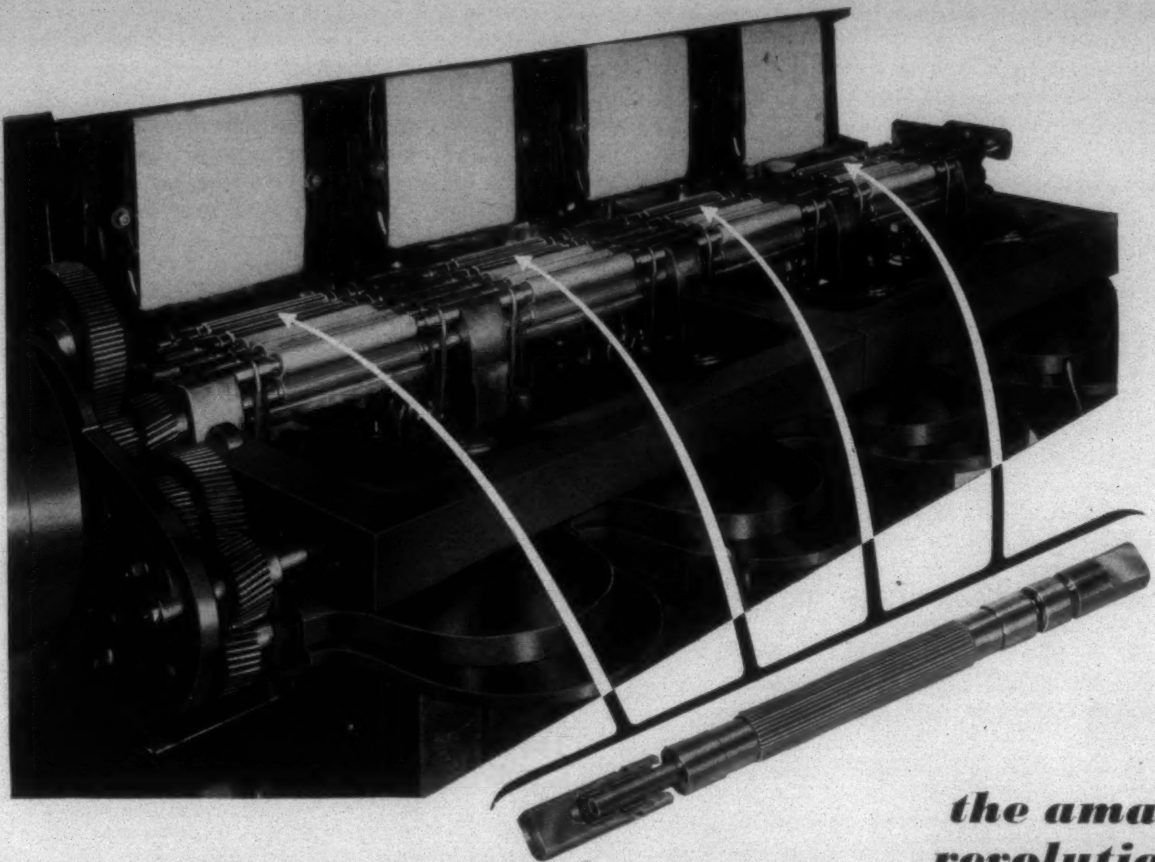
Paul Gurley, Piedmont Cotton Mills, Atlanta, got hot in the annual golf tournament that is a highlight of the annual convention, his 76 over the Ormond Beach course winning low gross prize and the Harrison Hightower Cup, top award for the tournament.

Frank Williams, West Point Mfg. Co., won the cup last year.

A. S. Durkee, Macon Textiles, Inc., Macon, Ga., was runner-up for low gross honors with an 80. Charlie Cobb, Canton Cotton Mills, Canton, Ga., had a 68 for low net and was presented a cup. R. B. Fort, Jr., U. S. Rubber Co., Hogansville, Ga., was runner-up.

For guests, C. H. Conner, Jr., of the Corn Products Department of Anheuser Busch, Inc., Charlotte, N. C., had a low gross 79. Frank Twitty, speaker of the Georgia House of Representatives, Atlanta, was runner-up with an 83. L. M. Shadgett, Georgia Power Co., Athens, Ga., had a 69 for low net and won the annual guest trophy. Ernest Key, Atlanta Belting Co., was runner-up with a 69.

Ingram Dickinson, Southern Belting Co., Atlanta, chair-



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man of the special entertainment committee, presented the prizes at the annual banquet.

The 1952 convention of the Cotton Manufacturers Association of Georgia will be held April 16-17-18, 1952, at the Boca Raton Hotel and Club, Boca Raton, Fla. The large facilities of the Boca Raton will make it possible to accommodate both the textile mill executive members of the association and the suppliers, marking the first time in a number of years that all convention guests will be quartered under one roof. It was emphasized that no reservation requests will be accepted at the present time, either by the association or by the hotel. At a later date, however, reservations forms will be furnished to both members and non-members, and the hotel will accept only those reservations that are submitted on the proper forms. Located midway between Palm Beach and Miami, the Boca Raton is known as one of the world's most luxurious resorts. It can be easily reached by both land and air.

S. C. Textile Manufacturers Assn.

REFLECTING the trend toward increased manufacture of synthetics in South Carolina, the South Carolina Cotton Manufacturers Association in annual convention May 17-19 at Sea Island, Ga., changed its name to the South Carolina Textile Manufacturers Association. This resolution was adopted "in view of the fact that many members head plants that produce rayon and other synthetic fabrics." In a second resolution the group asked for a month's extension of time to calculate their ceilings under the recently issued Office of Price Stabilization order for the textile industry.

William H. Beattie, president of Woodside Mills, Greenwood, S. C., was elected president of the association succeeding C. B. Hayes, vice-president of the Lyman (S. C.) Division of Pacific Mills. Charles A. Gibson of F. W. Poe Mfg. Co., Greenville, S. C., and Calhoun Mills, Calhoun Falls, S. C., was elected first vice-president to succeed Mr. Beattie. John K. Cauthen was re-elected executive vice-president and secretary-treasurer of the association. Three new directors named were P. S. Bailey of Clinton and Lydia Cotton Mills, Clinton, S. C.; F. E. Grier of Abney Mills, Greenwood; and W. J. Erwin of the Ware Shoals (S. C.) Division of Riegel Textile Corp.

One of the principal speakers at the meeting, Robert C. Jackson, executive vice-president of the American Cotton Manufacturers Institute, told the South Carolina manufacturers that "a lack of co-ordination and too many inconsistencies" in the government's price and wage control programs are "forcing curtailment of textile production." At the same time, he added, these things are encouraging a greater money supply for free spending. "The government's pricing policy has engendered a condition of indecision and doubt bred within agencies of the government itself; agencies working at cross purposes. . . . issuing directives and orders which contradict each other."

The speaker made it plain that the ill effects of the pricing program cannot be attributed to the personnel employed by the textile division of O.P.S. and said, "Our whole industry is indebted to the men who have left their businesses to perform a service for the government, the public and our industry. The fact that our industry has suffered under O.P.S. is not their fault," he added. "Rather, the fault lies with the concept of imposing rigid controls on a business system that is geared to a pattern of freedom."

Mr. Jackson asserted the price control provisions of the defense production act are "setting up barricades to production at a critical time when production and more production is the crying need in the fight against inflation."

On the other hand, he said, the government is "fostering inflation by setting up wage standards in defense plants that cannot be justified by any established pattern." He cited wage rates being fixed for the H-bomb plant near Ellenton, S. C., and said they were "so far out of line with the prevailing wage scale they are posing serious employment problems for long-established and war-vital industrial plants." Pointing out that the H-bomb plant is in a general area dotted with textile plants employing thousands of workers, he said, "It is hard to reconcile this with the government's efforts to combat inflation by asking for expanded industrial production."

He said that the government's "prolonged delay and indecision" in respect to the promised pricing order for the cotton textile industry has already "disrupted the mills' production effort, resulting in curtailment and lay-offs among many plants." In addition to this, he continued, "those who supply the mills, shippers, all the forward lines of distribution—the converters, finishers, apparel makers and major merchandisers—all likewise have been crippled in their operations."

The A.C.M.I. executive said that it was indeed "tragic" that many American men and women are not following more closely the debate over the administration's desire to extend the Defense Production Act of 1950 beyond June 30 and to make it more rigid, adding: "The most vital question in America today is how to protect the home front, both from the deliberate, positive programs of professional governmentalists and from the disastrous effects of inflationary pressures which could cause the needless collapse of our economic strength."

Referring to the general upward pressure on wages, Mr. Jackson said that in February Secretary of Labor Tobin announced wage rates for the South Carolina H-bomb plant some 30 per cent higher for electricians, carpenters, plumbers and other similar groups of workers. Consequently, he said, a neighboring textile mill finds itself in this dilemma: "Its wage rates compare favorably with other industries; its working conditions comparison is favorable; so is its safety factor; there is little or no seasonal variation; its products are vital to the country's defense and its full manpower complement is necessary if it is to turn out sufficient production to take care of civilian needs and to combat inflation.

"Nevertheless, the textile plant is faced with a situation where it must compete with the government for employees, only because the government itself has created this situation by setting artificial wage scales at inflationary levels that will brook no unsubsidized competition."

He added: "As if this isn't enough, the government's present wage policy gives the green light for any and all inflationary agreements to be fulfilled to the last fraction of a cent. Yet on the other side, where contracts which by right should be equally binding are entered into for the purchase and sale of manufactured goods, what do we find the price control policy to be The policy so far has been to disregard not only the commitments of the contract, but the costs and losses incurred by the parties to that contract. Actually, we have a situation now where contracts are being cut across that were made under a price control program previously in effect."

Read Dunn of the Washington office of the National Cotton Council told the convention that the council continues to take the position that price and wage controls do not control inflation. "A ceiling on raw cotton is the wrong way to stabilize the raw cotton price," he said. "If you can't control wages it is unthinkable to believe that you can control prices."

Retiring President Hayes, in his annual president's report, stated that in this new national crisis with America again on the verge of another world war, the textile industry becomes second only to steel in importance as a defense essential. However, he declared, governmental controls, pricing regulations and general confusion emanating from Washington are so hindering operations that today cotton mills are running only on a day-to-day basis, unable to predict the future.

Beattie

Hayes

Gibson

"While the Federal Government has kept us up in the air, our relations with the State Legislature have been excellent," he said. "We got a fair sales tax and the same exemptions for industry as North Carolina and Alabama. There have been no new taxes to put the textile industry at a disadvantage." Mr. Hayes commended Governor Byrnes and the State Legislature for their "fair" attitude toward industrial development which, he said, would mean much to South Carolina.

South Carolina's governor, James F. Byrnes, former Secretary of State, headed a group of top state and legislative officials who were guests of the mill men.

The pending general revision of all railroad class rates and classification rates to be uniform throughout the country is probably the most important adjustment in matters affecting transportation charges and services of interest to cotton mills, L. O. Kimberly, manager of the traffic department of the association told the group. E. S. McKissick, of Alice Mills, Easley, S. C., is chairman of the association traffic committee.

The general level of transportation charges is relatively low compared with commodity prices, Mr. Kimberly said. It has been raised less than the average increases in prices during recent years, he pointed out. However, the carriers are faced with further increases in their costs of labor and material and are seeking additional increases in freight charges, it was explained.

"We are preparing evidence to support our contentions that any increase should be held to the lowest level that may be found necessary to enable the carriers to maintain efficient service," Mr. Kimberly said. Adjustments and savings in charges previously accomplished continue to result in added benefits to shippers each year, he stated.

The need for more uniformity in the fringe benefits given by South Carolina's cotton mills was pointed up by John Toole, Jr., of Dunean Mills, Greenville, chairman of the association's personnel division. A recent survey by his division has revealed that while there is a high degree of uniformity of vacation pay, there is much variance on reporting pay, holidays given, premium pay and overtime, he told the mill men in urging that mills give more consideration to these fringe benefits. "They don't cost much and pay off well in employee relations," he declared. Mr. Toole urged that the personnel division name a committee to study the Compensation Act and make possible amendments.

Reporting for the cotton buyers division, Robert W. Smith of Orr Mills, Anderson, told the convention that the past year had been most confusing from a raw cotton standpoint. The crop was small, of poor character and getting a good grade was most difficult, he said. Government ceilings on cotton and cloth have added to the confusion, he declared. Mill buyers are showing much interest in the association's cotton buyers division, which is working with association groups of Georgia and Alabama on matters of national interest. Mr. Smith recommended that the American Cotton Manufacturers Institute seek to organize buyers' divisions in North Carolina and Virginia.

The J. E. Sirrine Textile Foundation held its annual meeting in conjunction with the South Carolina cotton manufacturers. The endowment fund of the foundation now stands at $862,733, of which approximately 70 per cent is invested in U. S. Government securities. This was made known by George M. Wright, former president of Republic Cotton Mills, Great Falls, S. C., and president of the foundation, in his annual report. Mr. Wright also noted that the Textile School at Clemson College had received donations of $179,000 during the past year which had been used for the purchase of new machinery and equipment. Riegel Textile Corp. made a voluntary donation of $5,000 to the foundation, Mr. Wright reported, and those funds were added to the Sirrine endowment.

Ellison McKissick, Alice Mfg. Co., a past president of the American Cotton Manufacturers Institute, was chairman of a nominating committee to select three trustees for the foundation. He proposed that Mr. Wright be re-nominated and that Walter Regnery, Joanna Mills, Joanna, and Fred V. Dent, Mayfair Mills, Spartanburg, also be named to the board.

In the association's annual golf tournament, which is always a highlight of the convention, John Harris, Jr., Greenwood Mills, with a reputation of always finishing in the money, hit the jackpot with a 78 gross over the Sea Island course to take top honors. A. Z. F. Wood, Springs Cotton Mills, and Jim Hammett, Chiquola Mills, Honea Path, S. C., carded a 72 each for low net. The field judges awarded low net prize to F. B. Edwards, with the prize for most birdies going to Mr. Hammett.

In the skeet shoot, Charlie Coggins, Columbia Duck Mills, got a 24-25-22 to take the "straightest shooting" honors. Second prize went to Mack Cates, Spartan Mills.

The Callaway system of handicapping was used in the golf tournament.

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THE MILL OF TODAY

By ROBERT Z. WALKER

Part 25 – Roving

PROBABLY the most effective manner in which the modernization of the roving frame may be stated is that there are now less of them. This is a summation of the results of the effects of the technical advances which have been made in the last decade or so, not only in the roving process itself, but also in the remainder of the spinning mill. The reasons why the roving process has been reduced are to be found before, during, and after the process itself.

Without delving too deeply into the methods of the now obsolete mill, it is sufficient to show that such mills used either two, three, or four roving processes. In the ordinary mill making medium counts, three processes were generally considered sufficient and would cosist of a 12 x 6 slubber, a 9 x 4½ intermediate, and a 7 x 3½ fly frame. Frame sizes ranged from 12 x 6 to 6 x 3, graded according to the size of the bobbin package in inches. There were three main reasons why the number of roving processes were required—numerous doublings for evenness, lack of drafting capacity in spinning, and lack of drafting capacity in roving. First, a large number of doublings was necessary or desired in order to spin yarn of satisfactory evenness. These doublings were started in the picker room, repeated at the drawing process, magnified in the roving process, and finally ended with the use of double roving in the creel of the spinning frame. At the picking, breaker and finisher pickers were used, with four laps from the breaker picker being combed into one final lap at the finisher picker. The drawing was divided into at least breaker and finisher processes of drawing with six ends being fed into each delivery and drafted down to a single sliver of approximately the same weight as a single end at the back. Two ends were doubled at each roving process, except for the first or slubber frame.

The theory behind the use of numerous doublings is that a thin place in one strand of fibers will combine with a thick place in another, and thus aid in producing an even strand. The practice of doubling does help in achieving an average evenness; however, it is also possible for a thick place in one strand to be positioned in with a thick place in another with a net result of greater unevenness than before. Even in modern mills there is a large amount of doubling, but a partial reason for this is that high drafts, which are beneficial in arranging the fibers in a parallel manner with relation to each other and the axis of the strand, would reduce the mass of fibers past the required weight for the yarn to be spun. The clearest example of this is to be seen in the drawing process where six or 16 slivers are doubled and then drafted either six or 16, depending upon the type of frame, so that the finished sliver is the same weight as one of the original slivers in the back of the frame. The main purpose and the value of the drawing process is that the drafting action causes the fibers to assume the near-parallel position necessary for good drafting during the roving and spinning processes.

It might be said that the first step in preparing for the elimination of the numerous roving processes was the successful introduction and adoption of the one-process picker. This type of picking, with controlled feeding and distributing systems, made possible the production of more even laps. As laps of less variation were put up at the back of the card, the card sliver became more even. With improved quality of sliver to work with, the drawing frames were able to produce finished sliver that was much more even; the necessity of passing this sliver through roving frame after roving frame was greatly reduced. As any overseer of carding and spinning can testify, good even laps from the picker, and even sliver from the card, are essential for good yarn. If either the lap or the card sliver is poor and has a high percentage of variation, even repeated processes of drawing and roving will not completely overcome the defects to spin premium quality yarn of smooth appearance and high breaking strength.

Mechanical improvements in the drawing frame are also factors which must be given credit for making possible the reduced roving stages practiced in the modern mill. Metallic rolls have given way to fluted steel bottom rolls and cushion covered top rolls with an increased ability to grip fibers firmly, and therefore the drafting action has become more effective. This, coupled with anti-friction top rolls that revolve more smoothly, aids in making sliver of less evenness variation and with the fibers more parallel. To the improved roll surfaces and use of anti-friction bearings must be added a third important item, spring weighting. Dead weighting, or the use of iron weights to apply pressure to the top rolls, is not considered as desirable as spring weighting, as the pressure is constant, regardless of the mass of fibers passing through the rolls at any given time, and because of a lack of response to this variable. Spring pressure systems are, on the contrary, very responsive to changes in the mass of fibers between the nips of the rolls and aid in maintaining sliver evenness and drafting by exerting a greater pressure when a large mass of fibers pass through, as the top roll is forced up by the fibers, and therefore the pull against the springs of the pressure system is increased. The springs yield to this increased pressure, but the pressure against the fibers is increased a corresponding degree. While all of these factors help in making better sliver, the adoption of spiral gearing in the tension gear train preserve the original evenness of the drafted sliver, for this type of gearing provides a smooth steady drive and eliminates any erratic motion which would stretch the sliver and pull fibers to cause linear irregularities.

With improved picking and drawing equipment, the mechanical progress of the roving frame itself must be evaluated. One of the main purposes of repeated roving processes was to assure sufficient doublings to obtain maximum evenness of the roving finally creeled into the spinning frame. As equipment all along the line improved, the elimination of the various roving processes was achieved without a deterioration in sliver or yarn quality. There are several changes in the design of the roving frame itself which were instrumental in permitting shortening the preparatory processes, as they enabled the primary roving frame to produce more even sliver.

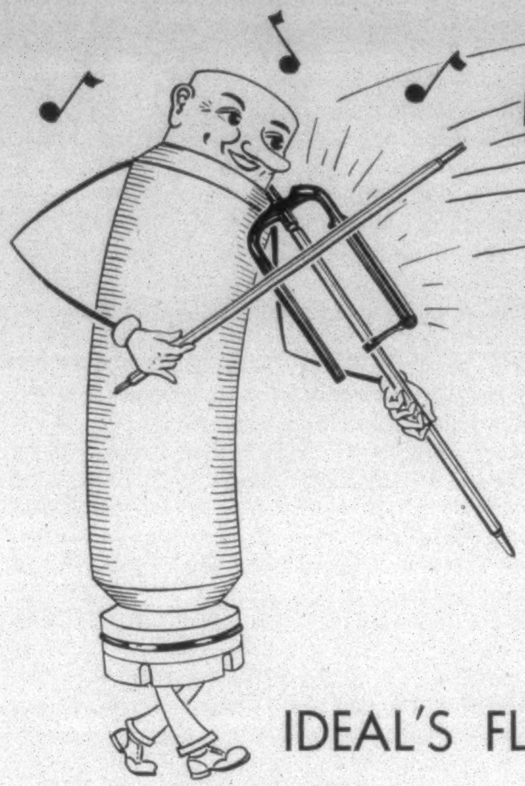
The main value of such re-designed assemblies insofar as roving evenness is concerned, lies in the increased smoothness of operation of the frame. The added uniformity of motion at all times, and the elimination of jerky and erratic movements, tends to prevent stretching the roving. Roving unevenness, when the roving is properly drafted from high quality sliver, is generally the result of minute changes in tension which pull the roving apart. Each time this occurs there will be a thick and thin spot in the roving, naturally resulting in uneven roving that will spin into uneven yarn.

Tension on the strand of roving, regardless of cause, presents the greatest danger in stretching and disturbing the fiber arrangement. The roving frame is particularly vulnerable to changes of tension due to its inherent design and the manner in which the roving is wound upon the bobbin. First, there are two lines of flyers running the length of the frame and at unequal distances from the nip of the front rolls of the drafting element. The roving leaving the front rolls is drawn from the rolls to the nose of the flyer by the pull of that part of the strand being wound upon the bobbin, and during its passage from rolls to flyer is held together only by inter-fiber friction. This friction between fibers is not too great, and therefore the strand is comparatively weak, due to the very low amount of twist inserted into roving. The twist is inserted into the roving during its passage from drafting rolls to flyer, at a time it is without support, at speeds employed in the modern mill. It is also during this time that the twist is inserted so that the strand leaves the nip of the front drafting rolls completely without twist, and the full amount of twist is not inserted until the fibers are at the flyer, so that the roving is weakest at the time in which the greatest strain is put upon it. In addition, the tension is different between the roving on the two lines of flyers, with the greatest tension generally on the back line of flyers nearest the drafting rolls. Thus, the frame must be adjusted to produce the amount of tension which will be satisfactory for both lines of spindles and flyers; this will necessarily be a compromise between too tight a tension on the back or too loose on the front.

The cones, together with the tension gear moving the rack, control the building of the bobbin and the tension on the roving.

Secondly, the speed of the flyer, spindle, and front roll are constant on most types of frames, while the speed of the bobbin is varied to wind the roving on the bobbin under uniform tension. It is to be understood that the bobbin must be altered to compensate for the higher surface speed gained as a result of the roving being wound upon the bobbin to form a larger package circumference. This bobbin speed is obtained by the use of a differential motion which integrated two sources of power and two different speeds. One speed and power source is taken from the main shaft and the other is received from the set of cones; the speed from the cones is variable in contrast to the constant speed of the main shaft. The speed taken from the cones is controlled by the position of the cone driving belt on the cones, with a belt shifter being regulated by the builder motion to move the belt for each traverse of the bobbin. This intricate interlocking of points located at various sections of the frame becomes a major problem when it is considered how closely and accurately co-ordinated the various motions must be if the final speed of the bobbin is to change to exactly compensate for the difference in bobbin surface speed resulting from the addition of a layer of roving. Whenever the compensation is not correct, there will be a change in tension which will have an effect upon the uniformity of the roving. The operators may move the cone belt manually to regulate or adjust the tension, although this is a practice that is generally disapproved of by management. There is an automatic regulator which permits some leeway in tension, although extensions beyond certain indefinite limitations will stretch the roving or will break it in extreme cases. The density of the bobbin varies at each layer in proportion to the change in tension. When the tension is tight, the bobbin will be hard, and the diameter will increase less for each layer; however, as this continues, the tension will become less, and the roving will become soft and fluffy. The soft, bulky roving will soon raise the rate of increase of the bobbin diameter, and in time the tension will again become tight.

Third, the flyer and the traverse of the bobbin will have an effect upon tension. The roving passes down through a hole in the top of the nose of the flyer, out through a hole in the side of the nose, and then is carried down the hollow leg. There is a definite change in the strain exerted upon the strand of roving as the flyer revolves, first with the hole in the side toward the front, and then toward the back of the frame, due to the changes in the angles of the path of roving which act to snub it. The presser paddle and presser also create divergent tensions as the bobbin is built up and the paddle is moved to a new position further from the center of the bobbin. This creates new conditions of centrifugal force which are not completely com-



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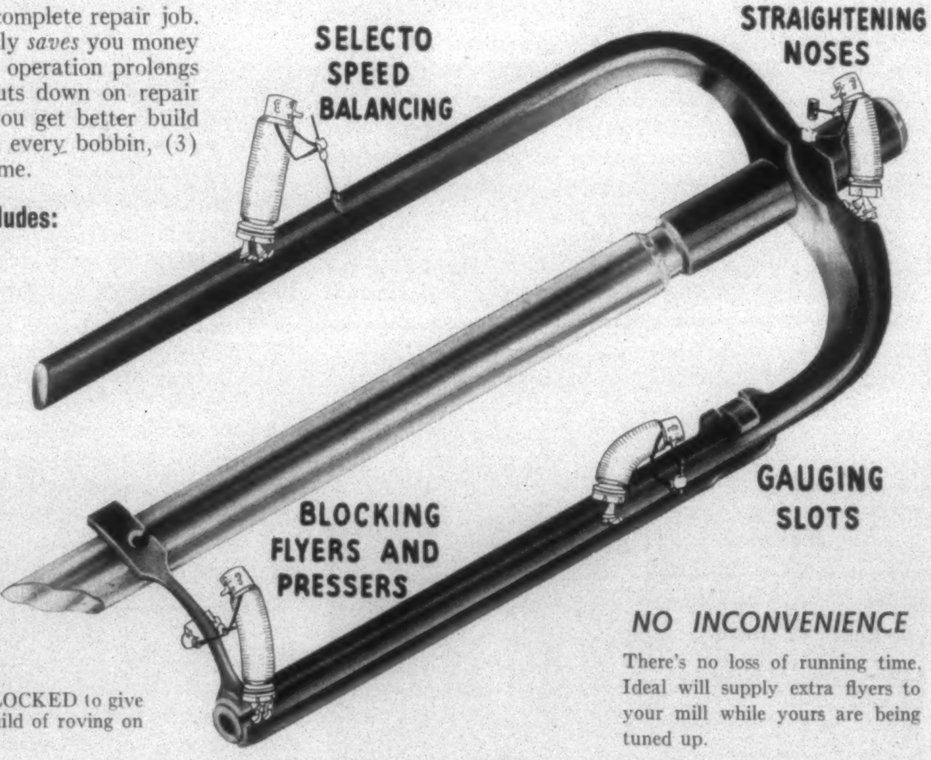

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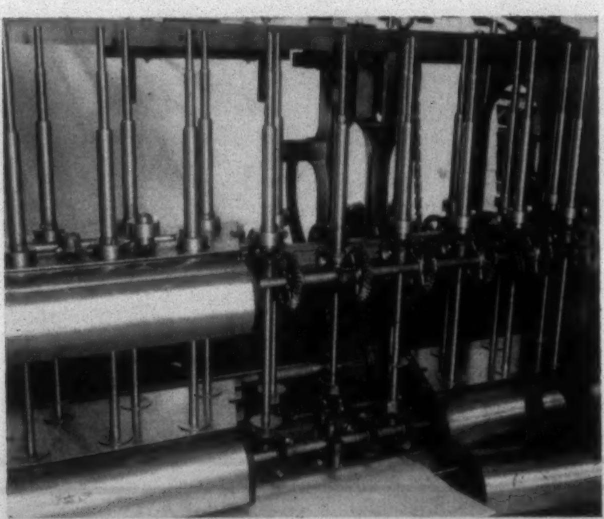
pensated for by the balancing design of this unit. The movement of the carriage up and down the length of the bobbin for each layer of yarn also causes changes in the degree of tension. As the bobbin moves up and down with the flyer and spindle remaining vertically stationary, the angle of the strand from the presser paddle to the bobbin changes first one way and then the other, depending upon the direction of carriage movement. This change in direction, and particularly the momentary hesitation or dwell at the moment of change, will have a varying effect upon the tension.

These inherent causes for variance in tension are present and are instrumental in making more difficult the task of producing roving having a high degree of evenness. By improving the mechanical design of the roving frame to the point that such tension changes become insignificant, or can be satisfactorily controlled, the roving produced by one process has become sufficiently even to eliminate the need of further doubling. In a great many mills, and for a large range of counts, the roving is not even doubled in the creel of the spinning frame.

Flyers today are made of special steel which resists being thrown out of balance by the strain of centrifugal force. The legs of the flyer will not spread because of the centrifugal force generated by the normal operating spindle speeds and therefore will revolve smoothly in contrast to older flyers which would become unbalanced and would then chatter and vibrate. This smoothness of motion reduces the strain put upon the roving as it is being twisted in its passage from drafting rolls to the nose of the flyer. The new synthetic top roll covering of the drafting systems also aid in reducing roving evenness, as the covering does not become worn to a hollow in the center as quickly and can be rebuffed so cheaply to make frequent corrections practical, and therefore the fibers are not plucked from the drafting zone to cause thick and thin places in the strand. Therefore, the changes in tension at this point have become reduced to the point where they may be disregarded.

One of the greatest improvements made on the roving frame has been the alteration of the contours of the top cone, which is instrumental in determining the speed of the bobbin. At one time the top and bottom cone were both formed with a straight contour, from end to end. The straight cone was designed on a purely mathematical basis and without coinsidering some of the variables introduced because of the nature of the material being wound upon the bobbin. A practical study or examination of bobbins formed by a straight cone showed that there was a tendency to overcorrect the stretch in the first third of the bobbin and to become less effective in controlling the stretch as the bobbin began to approach its final diameter. On the present-day frames, the bottom cone is still straight, but the top cone has been designed with curvatures put in at critical points where the straight top cone lost part of the necessary tension control. These alterations were dictated by experimentation rather than theoretical study and have proven very effective. As a result, the tension changes and resultant roving stretch have become reduced to the point of being but a negligible factor.



Bobbin gears, spindle gears and the gearing moving the carriage must mesh freely and move smoothly to prevent stretching the roving.

The cone belt has also been studied and its construction modified to aid in transmitting the correct speed through the cones. The older types of belts were of the standard flat types and were wide in order to try to prevent slippage. The wide belt became a source of tension changes due to the fact that the two edges would set up two different running speeds as each would be on different cone diameters. The effect was the same as if one belt was being run on two different sized pulleys. At the same time a narrow belt which would ride on one point on the pulleys was not satisfactory because of the heavy load and because the rubbing of the belt shifter would wear out the narrow belt in a short time. The cone belt now used has a convex surface so that only a narrow section of the belt is in contact with the cones, in effect a narrow belt, while the backing of the cone belt is wide enough to support the heavy load and to withstand the wear caused by the belt shifter. This belt has aided in magnifying the precision of the cone design and the control of the tension on the roving.

The general efficiency of the tension regulating motions has been increased by tightening up all machining tolerances and fits, and by re-designing such sub-assemblies that required more precise movement. The compound gearing, or differential motion which integrates the main shaft speed and the cone speed and transmits the correct speed to the bobbin, has been completely re-designed by some manufacturers and old systems greatly improved by others. The old "sun and planet" or "square differential" was exposed to lint and dirt, and the bevel gear construction then used was heavy and cumbersome. The dirt and lint became impacted in the teeth of the gears and caused slight irregularities in the movement of them. The main fault was that the multiple of parts became a potential source of backlash and lost motion whenever there was any wear. Backlash, in particular, gave the entire assembly an irregular motion which became a serious threat to maintaining an even tension. All compounds today are machined and fitted more accurately to prevent wear and backlash, while some roving frames are equipped with a spur gear compound instead of bevel gearing, as this design eliminates a number of gears and reduces the necessary movement of its remaining elements so that backlash will be a small factor in the final speed and power transmission.

The problem of lost motion and backlash was also considered with relation to the turning of the spindle and bobbin driving shafts. In the older models of frames, these shafts were driven by gear trains, which were liable

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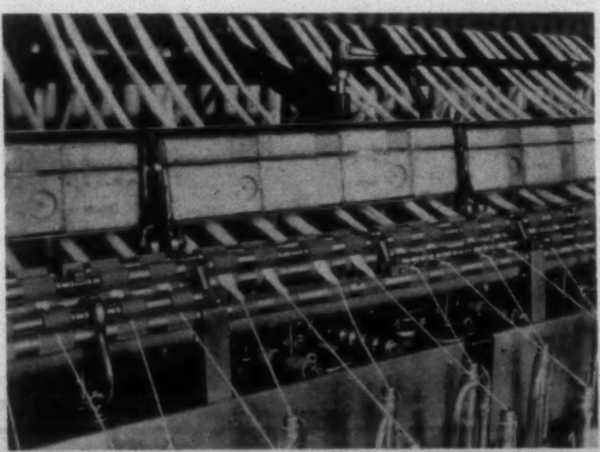
to wear and create excessive looseness in the meshing of the gears and in the bearings, so that a series of eccentricities would occur to damage the build of the bobbin and the maintaining of the correct tension. The drive of the bobbin shafts was the main problem, as the spindles do not have any vertical motion, whereas the bobbin shafts are mounted on a carriage which is in continuous motion, first up and then down. As a result, the bobbin shafts are always changing the distance between them and the center driving shaft. The gears in the train were required to have a secondary motion, in addition to revolving in order to drive the bobbin shafts, and moved around the periphery of each other. This secondary movement was found to be a constant source of variation in the tension on the roving, and it was discovered that the ends would become slack as the carriage ascended and loose when the carriage traversed downward. This pattern of tension variation was traced back and proven to be the direct result of the movement of the driven gear around the circumference of the driving gear. There is still a very small change in tension on the bobbin drives now used, but it is not noticeable insofar as the actual operation of the frame is concerned. The reduction was brought about by using a chain drive instead of the conventional gear trains. This newer type of drive is very simple and rugged, and the chain prevents the formation of backlash and lost motion.

Other improvements which have aided in maintaining the precision control of tension so essential for the producing of even, unstretched sliver, are largely composed of refinements in bearings. Most of the bearings of shafts which turn at high speed or support heavy loads are of the anti-friction type. As the bearings turn more freely under any normal load and are able to operate under long periods of abuse and neglect, the operation of the entire frame is smoother, and there is an absence of erratic motions which would have a tendency to cause minute stretches in the roving strand. Bobbin and spindle driving gears are now cut instead of being cast so that there is a steadier and more smooth rotation of the individual spindles, flyers, and bobbins.

To sum up the first reason why one-process roving was not practical for many years, it may be said that the equipment used in the manufacturing stages prior to and during the preparation of the roving had to be perfected until a suitable evenness of lap, sliver and slubber roving was achieved. This has been accomplished by the adoption of the one-process picker and electronic feed control systems, better drafting elements, and components in the drawing frames, and the mechanical improvement of the roving frame itself.



Note the distance the partially-twisted roving must travel without support. The roving is particularly weak and vulnerable to stretching at this point.

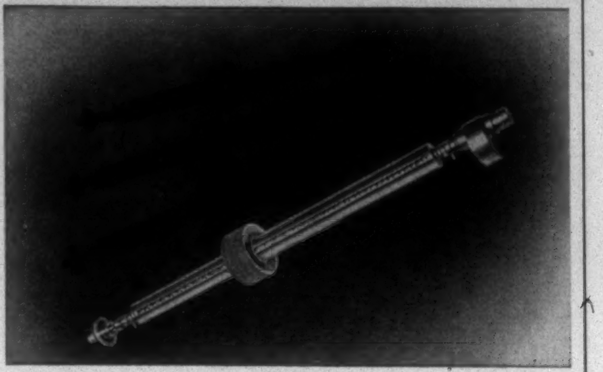
The second and third factors which were instrumental in making one-process roving practical are concerned with the development of long-draft. The second factor is the successful application of long-draft to the roving frame, while the third was the use of long-draft in spinning. It must be remembered that long-draft was originally conceived and perfected for spinning, and that the application of suitable long-draft systems for roving was initiated at a much later date.

Before the advent of single-process roving, it was the standard practice to use either two, three, or four processes, on as many different sizes or gauges of frames. The usual organization for mills making coarse counts was to use a slubber, generally 12″ x 6″ and a roving frame of either 9″ x 4½″ or 8″ x 4″ for the second stage. For medium counts where only two processes were used, the slubber would be 11″ x 5½″ followed by a roving frame of either 10″ x 5″ or 9″ x 4½″. For finer counts, such as in the range of print cloths, a third frame would be added and would be 8″ x 4″. For fine counts the mill would supplement the three processes with a fourth, which would be a fine roving frame of 6″ x 3″. In the modern mill which is taking full advantage of the latest developments in long-draft, a single process of roving will yield roving comparable in evenness to that formerly produced and is sufficient preparation for all but the very finest counts of yarns.

The comparison of long-draft organizations to conventional drafting is not always understood in its entirety, nor are all of its implications fully comprehended. It is common knowledge that there are now a number of long-draft systems available today which have a drafting capacity of over 30, in comparison to the drafts of from 3½ to 6 for the conventional roving frame. However, the increase in draft is actually more than the above figures show, due to the manner in which the multiple process roving is handled.

One-process roving actually requires less total draft than multi-process systems. The commonly accepted rules for draft set-ups of conventional roving frames was to use a ratio of 4 on the slubber, 5 on the intermediate, and 6 on the fine frames. These figures could be extended somewhat if the cotton was of extra long staple, but the limits were still very low. For example, in making a five-shank carded roving from .167-hank sliver, the total weight reduction is 5 divided by .167, or 30. If three processes of roving are used, this must be mulitplied by 2 for the two ends in the intermediate and again by 2 for the two ends in the fine frame. Therefore, the conventional systems require a total of 30 x 2 x 2, or 120 for the drafting for the entire stages of roving. In comparison, the one-process roving requires a total draft of only one-fourth of this, or 30, as it uses only one end, and dispenses with the doubling which accumulates in the other system. It can thus be seen that long draft is not a draft of 30 compared to a draft of 6, but involves factors which make its installation of much more importance both from an economic and a quality standpoint.

The general adoption of long-draft in the spinning room



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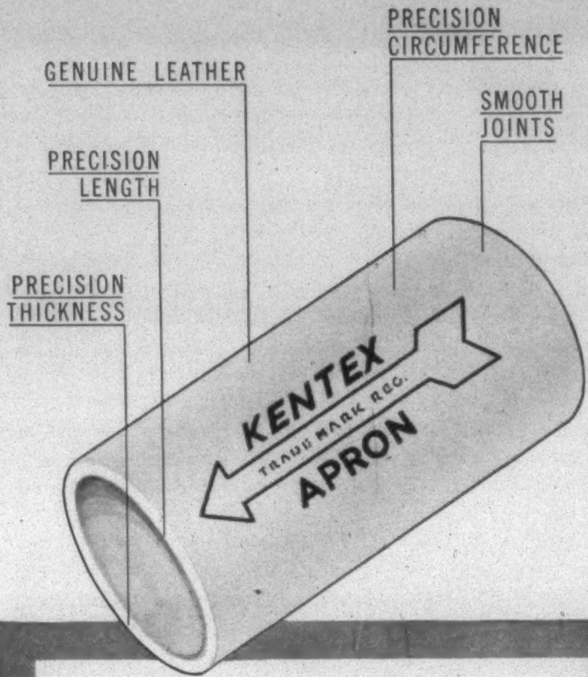

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also was necessary for the success of long-draft roving. When the conventional drafting element was used in the spinning frame, the roving had to be drawn down to the point that a draft of not over 11 or 12 at the spinning frame would produce the yarn count desired. In addition, the poor fiber control of the conventional drafting element required that the roving be doubled for the spinning of high counts, so that the roving would necessarily have to be twice as fine than necessary if single roving could be used. Today with long-draft systems for spinning having a drafting capacity of 30, 40, and even higher, it is never necessary to make roving finer than 3.50 or 4.00 at the most; 3.00 hank roving will suffice for counts up to 60, using two double roving, while 4.00 hank roving will be satisfactory for any of the counts of cotton spun today in this country.

The final development of long-draft adaptable to the roving frame has been one of the greatest achievements in the textile mill. One-process roving has been instrumental in reducing manufacturing costs drastically without suffering any loss of quality. There is a tremendous saving in floor space, capital equipment, supplies such as bobbins, and in labor costs. In addition, the repair parts problem is greatly simplified, as there are not three or four different sizes of machines, each requiring spare parts identical in use but of different size. However, this development could not become successful or practical until the contributing factors of evenness in lap and sliver had been attained and until the mechanics of the roving frame itself had been improved.

Knitgoods Market Outlet For Cotton

At the present time and in the foreseeable future knitgoods afford a sizable and stable outlet for raw cotton of relatively high grade and medium staple lengths. This prediction is contained in a report, "Market Outlets for Cotton in Knitgoods," recently issued by the Department of Agriculture.

The report states, in part: "The market outlet for cotton in knitgoods has been comparatively stable. During the period 1927 to 1947, estimates of the number of bales of cotton used in knitting yarns varied between 501,000 bales in the depression year of 1931 to about 880,000 bales in 1947. During these years knitting yarns represented a fairly constant proportion of total cotton consumption—from about eight to ten per cent. During most of the years between 1927 to 1947 for which data are available, the amount of cotton consumed in knitting yarns was within an even narrower range—from 9.2 per cent to 9.8 per cent of total cotton consumption.

"These facts offer a tempting basis for hazarding predictions as to the consumption of cotton in knitgoods in the years ahead. However, in this dynamic industry, with its intense competitive forces, the past record should not be considered a certain criterion for the future. As to whether certain cotton textile products are made of woven or knit fabric, the decision involves questions of style, relative costs of weaving and knitting, technological improvements in the processes of weaving and knitting, and as to whether the fundamental purposes can be better served by a fabric possessing the characteristics of a knitted or of a woven fabric. Then there is the competition from other fibers. Suffice it to say that knitgoods offer at the present time and in the foreseeable future a very sizable outlet, and moreover a very stable outlet for cotton of relatively high grade and medium staple length."

The quantity of cotton, rayon, wool and other materials used in knitgoods has in each case increased considerably during the past two decades, the report reveals. The proportion represented by cotton, however, has decreased from an estimated proportion of about 72 per cent in 1927 to about 51 per cent in 1947. The proportion represented by rayon and other synthetic fibers has increased considerably, while the proportion for wool has remained about the same.

The 17-page report was written by Joe H. McLure, agricultural economist with the cotton branch. The study was planned and conducted, however, under the general direction of John W. Wright, chief of the research and testing division of the cotton branch of the Department of Agriculture.

Chemstrand Receives Nylon Production License

President Osborne Bezanson of the Chemstrand Corp. announced June 4 the signing of a license agreement whereby Chemstrand will produce 50,000,000 pounds of nylon fibers per year. The agreement, making Chemstrand the first licensed nylon producer in the U. S., was signed by Bezanson and C. H. Greenewalt, president of E. I. du Pont de Nemours & Co. The Chemstrand-Du Pont agreement permits Chemstrand to manufacture and sell the popular nylon fiber in both continuous filament and staple forms to all branches of the textile industry.

Mr. Bezanson also announced that the Chemstrand acrylic fiber, an entirely new "man-made" fiber, would reach an annual production of 30,000,000 pounds. He predicted that the Chemstrand acrylic fiber, coupled with the additional nylon production, would comprise a major contribution to the fiber-short defense economy.

Chemstrand has been granted government certificates of necessity for the construction of plants to produce nylon and Chemstrand acrylic fiber. To finance construction, Chemstrand recently borrowed $110,000,000 from a group of insurance companies.

The Chemstrand Corp. was formed in 1949 on a 50-50 ownership basis by the American Viscose Corp. of Philadelphia and the Monsanto Chemical Co. of St. Louis, to develop the new acrylic fiber. Years of research by both parent companies showed that the new fiber provided improvements over critically-short natural products.

Large-scale pilot plant production at Marcus Hook, Pa., indicates that the new acrylic fiber can be used alone or blended in any amounts with existing fibers such as cotton, wool and rayon. Market tests completed by textile manufacturers conclusively show that this fiber enhances the quality of others by imparting better wear resistance, quick drying qualities, lighter weight, superior resistance to mildew and sunlight, and resistance to heat and perspiration.

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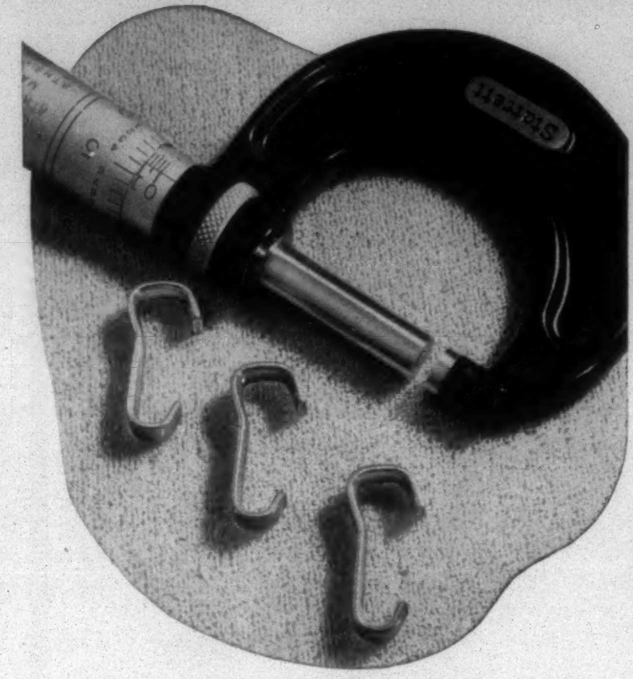

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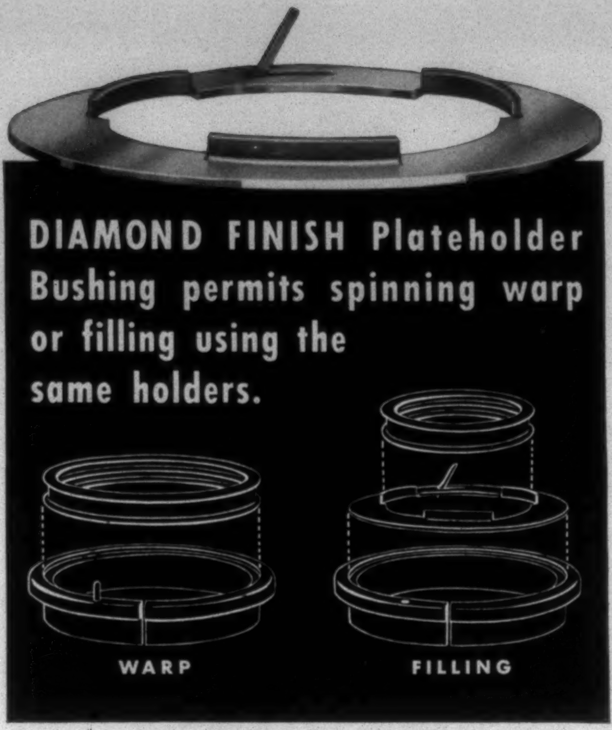

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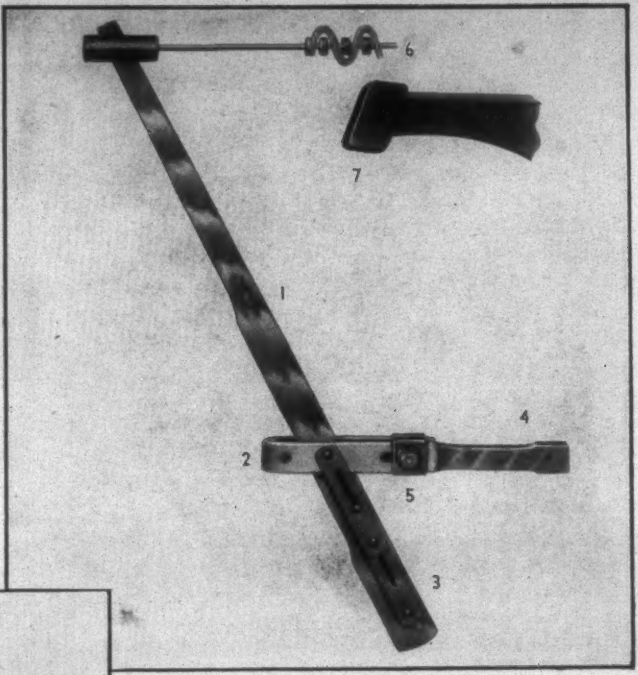

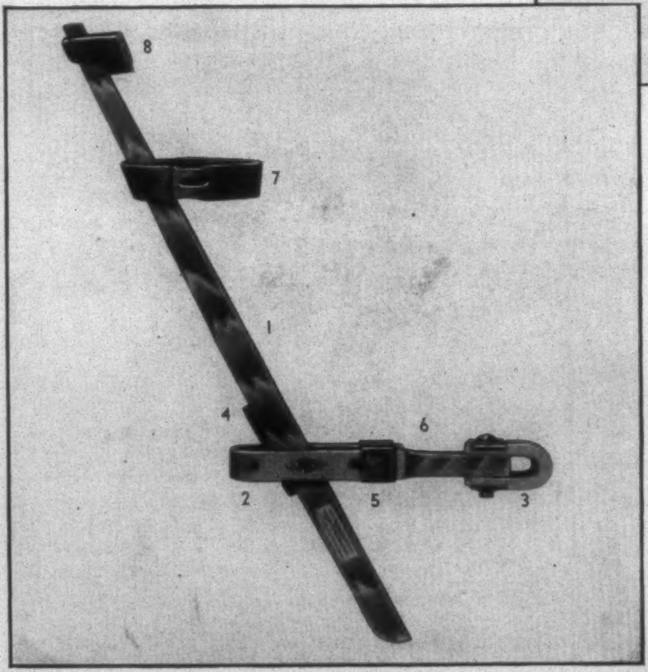

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Warp Preparation & Weaving

S. T. A. Panel On Mill Practices

AN ADDRESS on nep control by Ivan Feng, a member of the faculty at the School of Textiles of North Carolina State College, and a panel discussion on slashing and weaving problems featured the Spring meeting of the South Carolina Division of the Southern Textile Association held April 21 in the auditorium of Parker High School in Greenville, S. C. J. C. Godfrey, superintendent of Calhoun Mills at Calhoun Falls, S. C., the divisional chairman, presided at the meeting.

Mr. Feng's address concerned studies conducted on nep control at the N. C. State College textile school, principally by himself and John Bogdan, who is now in Europe. Both Mr. Feng and Mr. Bogdan have discussed the subject at past S.T.A. divisional meetings, which were reported in detail in this publication.

Joseph L. Delany, general superintendent of Joanna (S. C.) Cotton Mills Co., served as moderator for the slashing and weaving discussion, an abstract of which is presented below. Panel members were John M. Caughman, general superintendent of Spartan Mills, Spartanburg, S. C.; J. T. Chalmers, general superintendent of Orr Mills, Anderson, S. C.; C. L. Williams, Chemical Processing Co., Spartanburg, S. C., and M. M. Taylor, general superintendent of F. W. Poe Mfg. Co., Greenville.

Mr. Delany: The first question is "Do most print cloth mills have trouble with tight selvages breaking during the bleaching and finishing process; and, if so, what are the corrections and causes of these tight selvages?"

Mr. Caughman: I think the construction is the thing. You are not going to find much of it in 64-60. It generally shows or begins to make its appearance when we reach a peak of 80, assuming we are staying in the print cloth numbers. There are many differences of opinion as to what causes this, or whether the finishing process itself might be causing it.

Mr. Delany: I think from what I know about my own affairs the cotton mill causes it.

Mr. Caughman: There is no question in the bleacheries that the cotton mills are responsible for any defects. We know that. So the only suggestion I have is ply selvage.

Mr. Chalmers: I agree with John. I think up to 80-square you will not encounter any trouble with selvage breaking. I never have in my experience, and I have been weaving since I wore knee pants. After you pass that I don't think you can overcome it by tape selvage. I have overcome it by putting in 50 per cent less ends in there through the selvage. That opens it up quite a bit and allows it to stretch.

Mr. Williams: I think a whole lot of this trouble is misleading, because it is not caused by tight selvage but by weakened selvage, caused by too much vibration of the temple. I know quite a lot of mills have weakened selvage, and it could be improved by reducing the vibration of the temple.

Mr. Taylor: I think you can reduce it by allowing a little more stretch.

Mr. Delany: I am inclined to agree with these fellows so far as heavier counts of cloth are concerned. We found with 80-square, which we ran some time back, too much tension was caused there. We found that the smaller the bobbin became in the shuttle the more tension there was applied on the filling yarn, and it sort of made a curve there. You had a period of tight tension, and when the bobbin (in shuttle) was changed you had a period of slack tension. We got around that by spinning yarn with high or excessive twist, and used this solely for selvage yarn. Crooked beams on slasher will cause it. Filling yarn heavier than the warp will do it. We have run some 25s filling and 32s warp on fairly close weave, and that will cut the selvage out fast. Other things on the loom will pull it down. In the slasher room the chief thing there is to keep your ends coming straight and with uniform tension.

The second question is: "What slasher speeds do mills run on yarns in print cloth range, and is the speed set by the drying capacity or by inability to do good slasher work at higher speeds?" May we have an answer from the panel on that?

Mr. Chalmers: In my experience there is no limit to what speed you can run a slasher and do a good slashing job. The trouble is in controlling the tension on the beams on the back and splitting. I think size formulas, weight of the roll, and type of covering on the rolls can be balanced against the pick-up of size as the yarn passes through; and you can do a good job at almost any speed. I would answer that question by saying it is a matter of drying capacity.

Mr. Delany: Of course, the yarn count has something to do with that. With heavy yarn you can run as fast as with lighter yarn. Is that right?

Mr. Chalmers: I think you would break up the yarn with high speeds, but I don not think there is any limit to the speed.

Mr. Delany: I think in some places they are going to very high speeds. At Joanna we can run 80 yards per minute on 80-square and do a pretty good job. We have some mechanical difficulties there and are waiting for parts, as usual. We have found that the higher the speed at which you run the slasher the more size pick-up you are going to have. So what we do is to cut down the viscosity of the size, in order to hold that even.

Mr. Caughman: For that matter, how much penetration have we ever gotten, anyway?

Mr. Delany: I asked a fellow who was supposed to know. He is, to my mind, one of the foremost fiber men in the country. He happens to be at Institute of Textile Technology at the present time, at Charlottesville, Virginia. He showed some slides of different yarns that had been dyed, in order to bring out the starch penetration on them. Frankly, the amount of penetration on that was almost nil. As far as penetration is concerned, it is not what it is cracked up to be. That is a matter that people are going to ask about for a long time to come, and if I had not seen those slides I would have felt there might be something to this question of penetration. But I cannot answer that question; I do not know too much about it.

The next question is: "What results have mills obtained from using nylon slasher cloth and chemically-treated slasher cloth?"

Mr. Williams: I understood the main objection is that it has a tendency to harden. I have since learned that some who are using it, before it starts hardening, run it through the laundry and can use it over again and get excellent results. The main objection is that it has a tendency to harden, but it can be laundered and then put back on.

Mr. Taylor: We have used some slasher cloth with 20 or 30 per cent nylon in it with very good results. To us it seems to increase the life of the blanket.

Mr. Delany: In Joanna we have used several blankets of nylon and wool mixture. We have had the same experience Mr. Taylor has had. It does extend the life of the blanket ten to 20 per cent.

We will go on to question Number Five: "Several sizing companies have developed a highly concentrated locust-bean-gum jell for which they make great claims about high efficiency in weaving. What results have mills obtained from the use of this?"

Mr. Chalmers: We have changed our formula and we think we have less shedding but no increase in efficiency. However, there must be some difference there when you can reduce your shedding;

but we have ups and downs, you know; we all have those. I think if you really give it a good test, if you find your mill torn up sometime and put it in you can tell something about it. So far as increase in efficiency is concerned, I don't think we have any, but I think it helps.

Mr. Caughman: So you really could not tell.

Mr. A: We use locust-bean gum and other types of gum. Locust-bean gum, of course, can not be put in solution above say five or six per cent. There are other factors involved.

Mr. Delany: Let's go on to the next question: "When minimum stretch is desired using three-cylinder slashers and the Westinghouse multi-motor drives, which is the best system used for pulling the cylinders—positive drive or by the yarn?" Which is better, positive drive by gearing or by the yarn pulling the cylinders?

Mr. Williams: I understand some mills have tried positive drive for all three and have been forced to release the drive on the third cylinder. Then I know of other mills that do not drive the first two cylinders but drive the third cylinder. So in some cases they drive the first two cylinders and let the third float, and others drive the third cylinder and let the first two float.

Mr. Delany: Sometimes we have an indication that the yarn is pulling against the gearing and sliding on the cylinders. Of course, there are devices on the market which provide a ratchet release that will allow that situation to be overcome. You have your choice of letting the yarn pull it or putting the gears in and putting your ratchet gear in and letting it control it.

Question: With the ratchet release being automatic, do some of the members still say yarn?

Mr. Delany: I think we stick to the yarn.

Question: How about using it on starting?

Mr. Caughman: One of the advantages of the Westinghouse multi-motor drive is the control or the regulated pull from the start up to the end, the end of the beam. Is that right?

Mr. B: You mentioned wear on the gear tooth. You have your gears working as brakes there?

Mr. Delany: That is right. There are still quite a lot of the common gear-driven slashers in actual operation from day to day. If you look at those where you have gears I think you will find that the yarn is pulling the gears instead of the gears pulling the cylinders.

Mr. Caughman: It boils down to this—it is the amount of stretch that is going to do the damage. We know we can operate slashers with the yarn pulling the cylinders from 1¼ to 1¾ per cent. We know that can be done either on the old style or with the multi-motor drive. So suppose we reduce it one-quarter of one per cent. I challenge anybody to show any difference in weave room efficiency on that basis. There is all this hullabaloo on stretch; in the final analysis we spend so much time reducing it one-tenth of one per cent, and when we get through what have we got? Nothing.

Mr. Delany: Let's take up the next question: "When slasher sets must be changed, the slasher is stopped so the tender can 'count ends.' On styles which have heavy size, many of us have waste from the front side of the slasher to the squeeze roll, to keep from having hard size marks. How can this 50 to 60 yards of waste be eliminated?"

Mr. Caughman: I do not know that you can completely eliminate it. One thought comes to me. Some mills practice counting in from the back and some counting in from the front. (I am calling the front of the slasher the loom beam end and the back the squeeze roll.) It appears to me if you count in at the size box, the back of the slasher, and then move forward you would cut that down some; and in the final analysis, if you count in at the back and run through with the squeeze rolls lifted, giving that a very light dressing, and come on through, you could cut down on the amount that is in there.

Question: How are you going to cut down the waste there when you run it on through?

Mr. Caughman: Maybe it is the lesser of two evils. I am not claiming it will eliminate it.

Mr. Delany: It is a rather important question, because sized waste is a very expensive item.

Mr. Caughman: So is floor space a very expensive item.

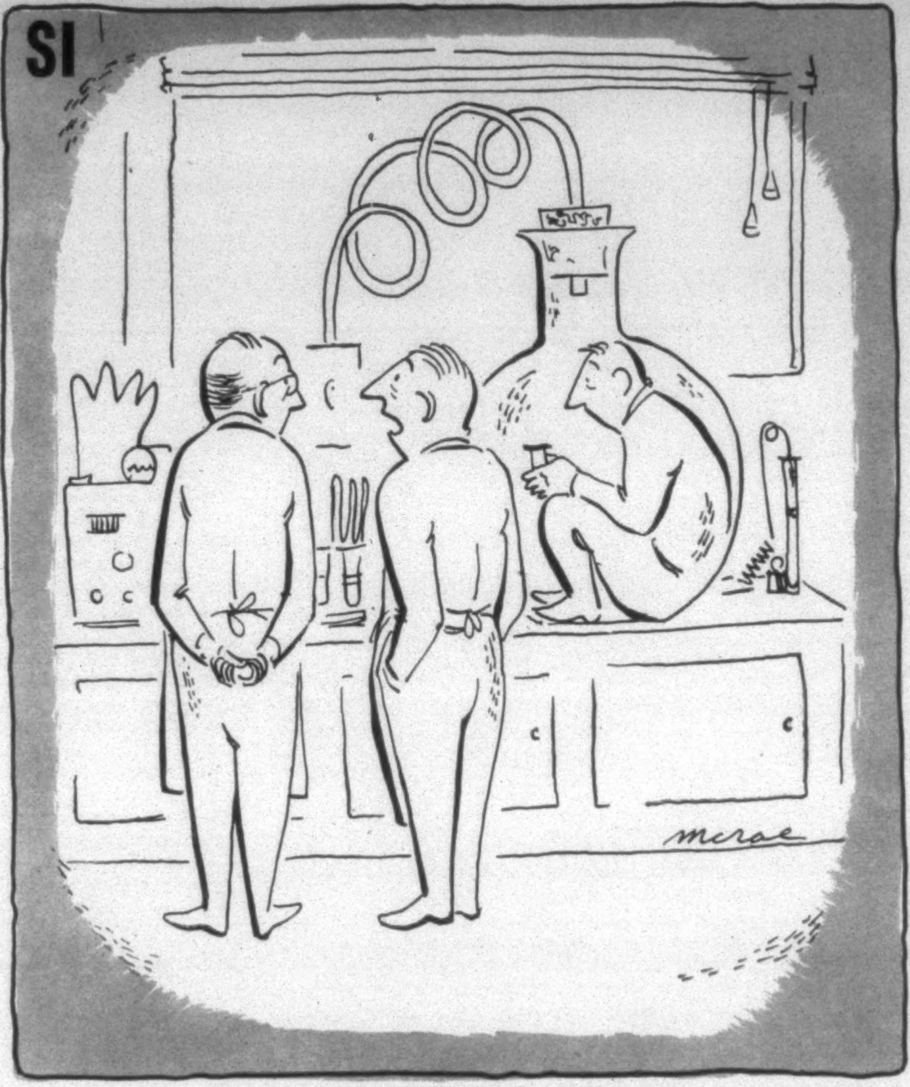
Mr. C: How about laying it on at the box and then running the size comb through the size box; then when it comes through the front end the slasher tender lays that across his hand and lays in six to ten dents—he can do it in about five minutes; then you will not have size standing in your box too long: the yarn will pick up hard size, but you will not waste it. I may not have made myself clear, but I have seen it done.

Mr. Delany: That is a good suggestion. We are all familiar with the fact that we have a tremendous amount of heat in the size box. When the size becomes hot and the rolls are held there it just bakes the size right on, and the longer it stays in there the harder that size becomes on the yarn. I do not know that the question can be answered 100 per cent. We are always going to have some.

We will go on to the next question: "How can you prevent rusty selvages where you use two-ply yarn for selvages and it does not dry as well as body of yarn?"

Mr. Taylor: I think you have to have your beam ends protected, so you will not have rust from them. Another thing, you can usually

The South Carolina S.T.A. slashing and weaving panel, *left to right:* John Caughman, general superintendent of Spartan Mills, Spartanburg; J. T. Chalmers, superintendent of Orr Mills, Anderson; C. L. Williams of Chemical Processing Co., Spartanburg; M. M. Taylor, general superintendent of F. W. Poe Mfg. Co., Greenville; and Moderator Joe L. Delany, general superintendent of Joanna Cotton Mills Co., Joanna.



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pull your ply selvage yarn to the outer edge, and that sometimes helps.

Mr. Caughman: We have had considerable trouble from this very thing. I do not know that we can say we have completely eliminated it, because there is always that breakdown of the human element. But, as a basis, painting the heads, giving them a good coating of paint and keeping them painted, is a step forward. Then the application of paraffine wax in block form on the loom-beam heads when you start up. The application there gives a protective coating.

Mr. A: At the Jefferson (Ga.) Mills they run their selvage yarn around the small cylinder twice. They run very coarse yarn, 11s and 13s. When it comes off it has actually been around three cylinders.

Question: That is all right, but where you do not have three cylinders how do you do it?

Mr. A: This mill has three cylinders. The operator has to see to it that the ends are brought over individually and not as a group, or they will twist. That is the only mill I know of that runs it around twice.

Mr. E: I have seen it done that way at Jefferson, and I tried it but did not have success with it.

Mr. F: I know a mill that has rigged up a battery of infra-red lights in front of the cylinder.

Mr. Delany: The slippage problem will always be with us. Let's take up the next question: "Should the copper rolls on slasher back and front be the same size, or should the finishing roll be a fraction of an inch smaller than the back roll to avoid stretch between the rolls?"

Mr. Chalmers: I think they should be the same size. It might be advantageous to make the back one probably .005 to .010 larger, but if you ever take them out to do repair work it is pretty hard to "mike" that roll, and the mechanic in putting them back in might put the larger roll in front, and then you would get stretching.

Mr. Taylor: I would rather have my larger roll in back and then have the head of it marked which is front and which is back. Mark the head of it, and when it is put back in that would eliminate the trouble of deciding which is the larger.

Mr. Caughman: I think you are hitting it right there to eliminate stretch, but at the same time you have to stay away from having it so slack that you will have rolling. We stamp the front and back rolls and keep the front barely under. We do not use copper, in the first place; we use stainless steel, and we try to keep that at .002 under and identify front and back. We want just enough difference to insure that the surface speed is barely under that.

Retiring S.T.A. South Carolina Division Chairman J. C. Godfrey, superintendent of Calhoun Mills at Calhoun Falls, congratulates the new divisional general chairman, James A. Chapman, Jr., superintendent of Riverdale Mills, Enoree.

Mr. Williams: I know of two mills that got the rolls backward, showing there is a difference. I talked with a Saco-Lowell man a few years ago and learned from him that the standard is .00136 larger for the back roll, to eliminate stretch.

Mr. Delany: We have eight slashers, three of them stainless steel, and the rest of them copper. When we checked the diameters we found everything. You have to have a certain amount of stretch on the slasher to make warp. You have to have tension to make a good firm beam. Our weavers appreciate it; all weavers do. So you have to have some stretch. We do watch over-all stretch on the machine but do not watch it from front to back in the size box.

We will go on to the weaving section. Question No. 1 is: "The bottom side of the shuttle on the battery end of the loom is cutting out on coarse work. This is caused by the setting of the battery plate. What are the suggestions for lining the battery and plate?"

Mr. Williams: There is an idea in some mills, especially on coarse goods, that they are supposed to raise that lay-in, according to their theory, to offset the thickness of the yarn, which is wrong. If you raise the lay-in above your shuttle race at all you will wear off the bottom of your shuttle. The system with most of the mills is to have that absolutely in line with your shuttle race. But there are some mills that raise that; and where they do raise it, supposedly to offset the thickness of the yarn, it will wear the bottom of the shuttle.

Mr. Chalmers: We must assume that the lay plate is perfectly in line with the shuttle race. It has been my experience that with coarse goods you are going to run a tight warp. When it goes into the right-hand box if we have a high shuttle then the shuttle will be off the lay plate, because the yarn is holding it up there. Then as it strikes the back plate it is going to nose-dive down into the lay plate and is going to cut it. The solution I have found for that is to run the back shuttle as low as you can, and then it can not cut it.

Mr. Delany: I should like to have Mr. Ross Clark, our weaving overseer, tell us about his experience.

Mr. Clark: We have run one particular loom on 1s warp and 1s filling, which is very coarse. The only way to keep the shuttle in the loom was to take off the race. We ran it very successfully—just that one loom.

Mr. Delany: That was an exaggerated instance, because we were using No. 1s yarn. That thing was almost as big as a pencil, and with it lying across the race plate there you could see what we were up against.

Let's go on to the next question: "How can you eliminate slack selvages on X Model looms?"

Mr. Williams: A thousand and one things can cause slack selvage. I think, for the benefit of this meeting, you will find that cautious loom fixing—that is, trying to keep each and every part of the loom set as uniformly and correctly as you can, will do more than any other one thing. On the X Model you speak of there are two cloth roll springs on the shaft, giving an individual spring on each side. It is hard to get two springs with the same tension; and you can very easily, on the X type, very easily get slack selvage by having one spring with more tension. But I think for the benefit of the group here I would say caution and close and accurate loom fixing.

Mr. Caughman: Let me ask a question. The paper tube in putting the roll in is a comparatively recent thing, isn't it? I am talking about centuries of weaving and 20 years of shade cloth. That is comparatively recent, as far as my mind goes in the history of weaving. It occurred to me that there must be people who recall the day when you did not use a tube but used a rod. Did you have slack selvage in those days?

Mr. Williams: Yes, because there were times when it would shift on the rod. Something would cause the cloth to shift over. Even with the plain roll there were times when it would shift over and cause slack selvage.

Mr. Delany: We are running two different types of looms, one with paper tube and one not; and we have slack selvage on both. It is about equal on both. Blame the loom manufacturer, not the mill. I think you will have more slack selvage on heavy cloth than on lighter counts.

Question: Would the way you start the cloth off on the sand roll covering affect it? What effect would that have in it?

Mr. Williams: You could cause trouble right there on that, by the way you start your cloth.

Mr. Caughman: Boiling it down to a general statement, then, anything that is going to cause more tension on one side than on the other is going to cause tight selvage on one side and slack on the other. I think tight selvages cause as much trouble as slack.

Mr. Delany: Yes. And I think it is harder to eliminate slack selvage than tight selvage. I heard that subject discussed on this platform several years ago. It keeps on coming up.

Let's go to the third question: "What has been your experience with or what is your opinion of cleaning looms with steam?" Is anyone here using steam to clean looms? There are several types on the market of a portable steam generator which you move close to the loom and then apply steam to it. Recently I received my copy of the proceedings of the Southern Textile Association. I noticed that at one of the sectional meetings that question was discussed. At the present time it seems that the steam is too wet; it has a tendency to condense when it hits the loom, and leaves you with pretty wet floors. Many of us have felt pads or some other form of cushion or pad on which the looms are sitting, and when that is wet it tends to soften up, and the loom jumps around.

James T. McAden, Jr., Secretary, Southern Textile Association: The opinion was that if you were taking 20 or 30 looms and cleaning them up, regular overhaul, it was a very satisfactory way to do it, because you take out a lot of trash which you would not want on your weave-room floor. It is very good for periodic outside loom cleaning.

Mr. Delany: The next question is: "What is your experience with and what is your opinion of overhead or ceiling cleaners for the weave room?"

Mr. Caughman: To begin with, it is pure economics. It is a question of how much you are paying for the cleaning of your loom per year or per week presently and then weighing that against the cost of the equipment overhead. It is surprising how few mills know exactly what their cost on cleaning per loom is. Having reason to do some investigating along this line, we found it ranges anywhere from less than $10 per loom per year to up to as high as something over $200. I was completely thrown off. I expected the high cost to be in the coarse weaving, but that is not the case. The high cost per loom of cleaning is in the fine mills, with the more expensive fabrics, where they can not afford to damage goods. As a matter of fact, one of the manufacturers will very quickly give you where the breaking point is. If anybody is below $30 to $40 per year per loom for cleaning (and that is counting everything; it is counting sweepers, blow-off men, harness cleaners—every kind of cleaning you are using), then you are going to have a long time paying for the capital investment on the basis of labor eliminated. Now, you can clean the loom with the overhead. There are examples of it right in the State which are very good.

Mr. Delany: There is a lot of cleaning done on the loom, and anything that would aid in overcoming that handicap would certainly be of value to the industry as a whole. Of course, the finer-count mills do more cleaning and would certainly pay for it more quickly than the mills on coarser counts. Rayon mills and the synthetic groups in general would pay for it more quickly than cotton goods mills.

Let's go on to the next question: "Which, in your opinion, is better— 'preventive maintenance'—by your own men or by having an outside crew come in and overhaul looms when needed?"

Mr. Williams: You can do your loom fixing in such a way as not to require extensive overhaul. I know of mills which require each loom fixer to overhaul one loom per day. In other words, if you call in an outside bunch you are inviting careless loom fixing. Your fixers wait for that to be done when the overhauler comes.

Mr. Chalmers: We think preventive maintenance is the best method, even though you do decide to take a block of looms and give them a thorough overhauling to get them on top, so to speak, or bring them up to a little higher level. These men who do this work about over the country, I understand, do a creditable job. But they bring in their men, and when they finish the job they take their men out. I think if you are going to do a block of looms you should take your own men, because the experience they gain will be in your own plant. In other words, think less about building looms and more about building personality.

Mr. Delany: There is one question that was sent in: "What about endless check straps on X-2 looms?"

Mr. Williams: There are some mills that claim they are getting excellent results from the endless straps.

Mr. Delany: D. J. Buchanan of Joanna Mills has 100 looms running without endless check straps and 100 running with them.

Mr. Buchanan: We have not had any trouble at all with the check straps on the X-2 looms, and I would say that the endless check strap will last as much as three times as long as the regular check strap.

SO YOU WANT GOOD CLOTH!

By **FRANK D. HERRING**

Part 25 – Filling Breakage on Transfers

FILLING breakage on the transfer or change can be stopped on a Draper loom, but good loom fixing is required to stop it and constant know-how supervision is necessary to keep it stopped. Constant supervision is necessary because when a loom is in operation there is always a certain amount of wear creating lost motion and making it necessary for the fixer to make adjustments on many parts of the loom, and too many fixers will make these various adjustments without keeping in mind the over-all picture, or the affect these adjustments are going to have on the functioning of other parts or motions of the loom. That is why a planned procedure, or doing first things first is absolutely necessary to obtain top efficiency in loom operation. It just cannot be worked out any other way, and very few loom fixers are trained to do that kind of work, and of course the fault rests with management and supervision. Anything that interferes with the orderly transfer of the bobbin from the battery into the shuttle will cause filling breakage on the transfer, and when the things required to stop this interference are done many other troubles will also be corrected, such as hung or trapped bobbins, bobbin breakouts, broken bobbins, bobbins on floor, burst shuttles, broken box plates, and sometimes broken hopper stands, etc.

The instructions given herein, relative to the correction of filling breakage on the transfer, are listed with the assumption that the batteries have been gauged with the gauges made by the loom builders. If they have not been gauged, maximum results cannot be obtained from any series of adjustments or settings because all the affected parts are designed and made to work within the radius of the distances and dimensions allowed by the gauges. The loom builders gauge the batteries on all new looms before they are sent out to the mills, but very few mills require or train the loom fixers to use the gauges when making replacements of broken hopper stands, and that is just one of the many reasons why the looms become more and more inefficient in their operation as time goes on. A new loom, with proper supervision and maintenance, should operate at top efficiency until it is outmoded and made obsolete by more improved machines.

To stop filling breakage on the transfer check and make adjustments on the following loom parts in the order named.

(1) *The rocker shaft*—Lost motion in the rocker shaft will allow the lay to rise out of position when it arrives on front center, or at the point of its extreme forward motion, and as the downward movement of the transferrer is actuated by the forward movement of the lay this rising up of the lay will cause the transferrer to be depressed down too far and this will cause the small end of the bobbin to snap down low enough to break the strand of filling extending from the thread holder to the ingoing bobbin. Excessive lost motion in the rocker shaft can be easily and quickly removed, provided the shaft has never been turned, by turning the shaft one half turn and sliding it about one inch lengthwise. This will place the worn part of shaft on top, and by sliding it, enough of the unworn part of the shaft will also be on top and will prevent the rising of the shaft, and as all the pressure and wear is on the bottom of the shaft this arrangement will make the shaft as good as new. But if the shaft has already been turned it is then necessary to remove it and replace it with a new shaft.

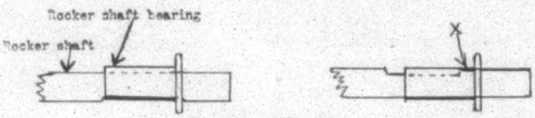

Fig. 78 and Fig. 79.

Fig. 78 shows the worn rocker shaft in position in the rocker shaft bearing. Fig. 79 shows the shaft in place after it has been turned and moved lengthwise. When a rocker shaft has become worn on both sides it can be reclaimed and made as good as new by cutting it in the center and then placing and welding the two worn ends together in the center. Of course the swords, parallels and rocker shaft collars must be loosened before the rocker shaft is turned and moved; so, before these parts are tightened the lay should be positioned lengthwise in relation to the hopper stand. This is done by the use of one of the battery gauges. (This gauge is shown, and instructions on how to use it, in Fig. 58 in the September, 1950, issue of TEXTILE BULLETIN). The shuttle is contained in the lay, and if the lay is not properly positioned the shuttle spring will not be in position to receive the ingoing bobbin when it is transferred from the battery to the shuttle.

(2) *Crank arms*—The power for the rotation of the lay is derived from the crankshaft and transmitted to the lay by the crank arms and any lost motion in the crank arms will give an uneven throw of the lay causing a slight variation in the position of the lay at the extreme front center position, and this will cause a variation in the depth of the transferrer when bobbin is transferred from the battery to the shuttle, and this will sometimes cause a faulty transfer and can cause any one of the above mentioned troubles. Lost motion in the crank arms can, and does, cause many other troubles. So, it is good practice for the loom fixer to form the habit of checking this condition every time he goes to a loom to work on it for any cause. This is good preventive loom fixing, and will enable the fixer to stay ahead of his job.

(3) *Breast beam*—The battery in which the filling bobbins are contained must of necessity be in a fixed and rigid position at all times. Otherwise the working parts of the battery would not be positive in their actions. The battery is mounted on the breast beam, and of course the breast beam must also be in a fixed rigid position at all times. Before making any adjustments on the battery, the breast beam should be checked to determine if the bolts and dowel pins, on both ends, are in place and tight. While on the subject of breast beams, I would like to try and impress on the reader's mind the real importance of keeping this part of the loom in place and tight. Mounted on the breast beam are more parts requiring very close accurate settings than on all the balance of the loom combined. In my opinion, at least 75 per cent of the loom fixer's time is consumed working on parts either mounted on or working in close conjunction with parts mounted on the breast beam.

(4) *Hopper stand*—Check the hopper stand to determine if the bolts and dowel pins are in place and tight. A fraction of lost motion in the hopper stand makes it impossible for any of the transfer parts mounted on the battery to function properly. (For best results the drills and dowel pins for all the parts, using dowel pins, should be secured from the loom builders).

(5) *Bobbin disc, bobbin disc stud, bobbin guide*—These three parts should be checked and adjusted simultaneously.

After removing all the full bobbins, place an empty bobbin in the battery and check to see if the rings on the bobbin line up perfectly with the grooves in the bobbin guide. If either the bobbin disc or disc stud is excessively worn it will allow the bottom part of the bobbin disc to incline inward toward the hopper stand and throw the rings out of line with the grooves in the guide and will allow the butt end of the bobbin to strike the bottom part of the hopper stand, and either of these conditions will interfere with the orderly transfer of the bobbin from the battery to the shuttle. This condition also will cause the bobbin in the battery resting against the bobbin guide to roll or turn, aided by the vibration of the battery, and break the strand of filling extending from the bobbin to the thread holder before the transfer is made, and of course the loom will stop off after the transfer is made and this is sometimes very confusing to the loom fixer because it will be evident that the filling is breaking on the transfer, when in reality it will be broken before the transfer is made. The fixer should always check for this condition when he goes to work on a loom stopping off after the transfer. Of course the fixer should determine if the bobbin disc, disc stud, or both, are excessively worn and make the necessary replacements. Some looms are equipped with smooth face bobbin guides, without the grooves, but the above mentioned adjustments are necessary to prevent the butt end of the bobbin from striking the hopper stand.

As mentioned above the bobbin will sometimes turn in the battery and break the strand of filling before the transfer is made. This is true when using regular wind filling, but when using reverse wind filling the strand of filling will become slackened to the point where it will drop down and be broken by the picker. Another thing which is confusing to the fixer is that the filling very often breaks on the second pick after the transfer is made, and the fixer seeing a full bobbin in the shuttle will go to work on the battery when the battery transfer mechanism has nothing to do with the breakage. After the transfer is made the strand of filling does not become fully threaded in the shuttle eye until the second pick after the transfer. The

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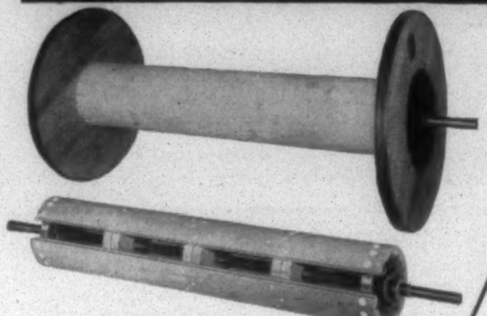

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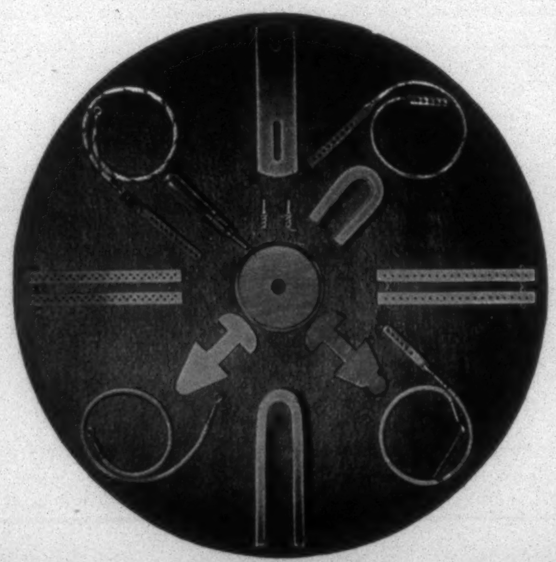

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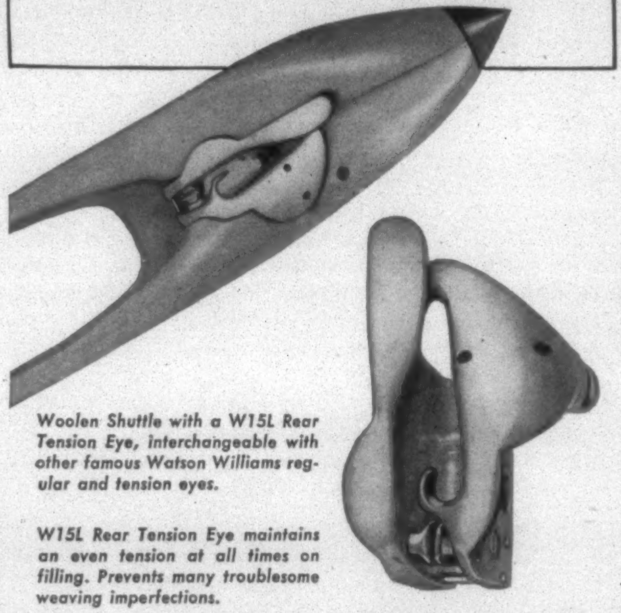

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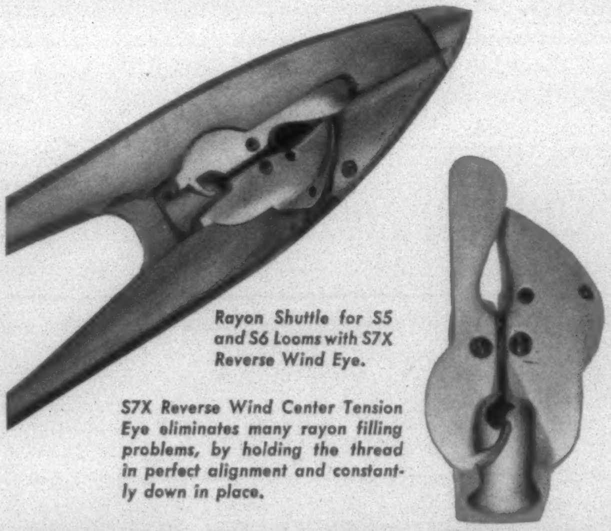

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first phase of this threading transaction takes place when the shuttle leaves the battery end of the loom on the first pick after transfer, and sometimes this first phase of the threading will fail, leaving the strand of filling deposited on top of the shuttle entirely out of the shuttle eye. When this happens the filling will be broken on the second pick after transfer, or when the shuttle starts back towards the battery end of the loom. When this happens the fixer can easily detect it by checking to see where the broken end of the filling is deposited. If the broken end is deposited near the selvage on the shipper end of the cloth, it is sure indication that the filling was broken on the second pick after the transfer was made, or the thread failing to become partly threaded after the first pick after transfer. The cause for this condition will always be found due to something wrong with the shuttle, such as excessively worn shuttle where the wooden self extending slightly over the outward tip end of the shuttle eye has become worn or beaten off by the shuttle striking the back box plate, or the tip end of the shuttle eye extending too low in the groove in the shuttle, or the shuttle eye choked with thread or lint, or the bobbin, small end, too high when clamped in shuttle, or the bobbin loose or not in line in shuttle, or the shuttle bristles out or not in proper position, etc. All the above mentioned faults can be repaired by the fixer except the beaten off wooden shelf on the shuttle. This cannot be repaired because a necessary part of the shuttle has been removed, and the only remedy is a new shuttle.

(6) *Hold back pawl*—The purpose of the hold back pawl is to hold the bobbin disc in place while the transfer of the bobbin is being made, and it should be adjusted to a point where a maximum of $\frac{1}{16}$th of an inch play is allowed in the back and forward movement of the bobbin disc. If excessive play is allowed in the disc the transferrer is likely to lose control of the outgoing bobbin while transfer is being made from the battery to the shuttle.

(7) *Pick motion on battery end*—Check the stroke on the picker stick and then the timing of the pick. If the loom is picking late from the battery end it will cause the filling to be broken on the first pick after the transfer because the lay will be so far back that the strand of filling will be drawn over the front wall of the shuttle and broken when the shuttle is about halfway out of the box. This condition is also very confusing to the fixer, because the indication is that the filling was broken on the transfer. Filling breakage caused by late pick from the battery end is much more prevalent on reverse wind filling than it is on regular wind.

(8) *Shuttle*—The shuttle should be examined closely and if excessively worn it should be replaced with a new one. The bobbin in the shuttle should be held rigidly tight and in perfect alignment at all times, and all the friction bristles in and properly placed. (Much more will be said about shuttle bristles when we cover filling breakage while loom is running.)

(9) *Shuttle boxing*—Put the loom in operation and see that the shuttle is boxing properly in both ends of the loom. If the shuttle is not boxing correctly it can cause interference on the transfer, because the shuttle will not be in the proper position to receive the ingoing bobbin from the battery. The shuttle feeler will strike the end of the shuttle and cause the transfer to be revoked if the shuttle is not far enough up in the box, but on account of faulty adjustments on a number of other parts the transfer will not always be revoked, so, the safest thing to do is to make sure that the shuttle is boxing correctly. Improper boxing of the shuttle will cause many other troubles.

(10) *Bobbin support*—The bobbin support is supposed to support the butt end of the full bobbin, which is in transfer position in the battery, while the loom is in operation, and to assist in guiding the bobbin into the shuttle when transfer is made. There are several types of bobbin supports now in use on Draper looms, but means are provided for adjustments on them and they should be adjusted to a point where the bobbins in the battery will just clear the support lip when the bobbin disc turns after the transfer. If the bobbin support lip is too low it will allow the bobbin to drop down and out of its proper place in the bobbin disc, and the vibration of the disc will sometimes cause the bobbin to turn, or roll, and break the strand of filling before the transfer is made. Also, when the bobbin drops down out of position it will cause interference and faulty transfers resulting in broken filling ,etc.

(11) *Transferrer, and parts mounted thereon*—(The following instructions are given for looms using the Stafford thread cutting device with the adjustable stud on the latch finger). Place the shuttle all the way up in the shuttle box on the battery end of the loom. Remove the latch depressor. Raise the latch finger by hand and turn the lay to extreme front center position, with the latch finger in contact with the bunter, with the transferrer depressed to its lowest position, then adjust set screw in latch stand to a point allowing one-eighth of an inch clearance between the transferrer and the rings on the bobbin in the shuttle. With the transferrer in this position, all the way down, check the clearance between the back inside wall of the shuttle and the back smooth surface of the transferrer. There should be one-eighth to $\frac{3}{16}$ths of an inch clearance at this point. This adjustment is made by turning the eccentric pin in the sword and crank arm. Of course if it is found necessary to turn the eccentric pin either way this will necessitate a readjustment of the set screw in the latch stand to retain the proper setting on transferrer in relation to the rings on the bobbin in the shuttle, as the forward movement of the lay actuates the downward movement of the transferrer. The reason I suggest the removal of the latch depressor is that sometimes it will bind against the stud in the latch stand when the transferrer is down and retard the free action of the transferrer and prevent accurate setting, and also the latch finger is used as a gauge for setting the shuttle feeler and the latch depressor, and of course it is necessary to have the latch finger in its proper place before setting these other parts. Next, turn the lay back towards bottom center to a point where the latch finger will be released and drop down out of contact with the bunter. Then turn the lay back to front center and press the transferrer down against the bobbin in shuttle, by hand, and line the transferrer fork with the bobbin in shuttle. It is sometimes necessary to bend the fork slightly, then, if necessary, bend the fork up to a point where it will clear the small end of the bobbin one inch when the transferrer is in contact with the rings on the bobbin. Then release the transferrer, allowing it to rise up all the way down, and then line the bobbin in the battery with the transferrer fork. This is done by adjusting the small end bobbin disc. Next, check the feed pawl,

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and if it is excessively worn it should be replaced with a new one. The feed pawl should hold the bobbin disc in a rigid position while the loom is in operation, with the rings on the bobbin in transferring position held firmly against the bobbin guide. With the feed pawl and transferrer in this position, the heel of the transferrer should clear the hopper stand one-eighth of an inch.

(12) *Shuttle feeler*—Hold the latch finger up by hand and place the lay in position so that it will be contacted by the bunter, but not depress the transferrer. Unhook the starting rod spring and hold the shuttle feeler up in transfer position by hand and adjust the shuttle feeler bracket to a point where the shuttle feeler will clear the front side of the lay end plate one-eighth of an inch and the tip of the shuttle feeler one-quarter of an inch from the smooth surface of the back box plate. Then tighten the bracket bolts securely. I suggest unhooking the starting rod spring, because adjustment can be made on the shuttle feeler much easier and more accurately by holding it up in place by hand. Next, hook the starting rod in place and connect the mechanism to raise the shuttle feeler in transfer position, and with the bunter still in contact with the latch finger, mount the latch depressor in place on the shuttle feeler and adjust it so that the top tip end will clear the front binder one-quarter of an inch. Then move the lay back to where the bunter will clear the latch finger one-eighth of an inch and make the settings on the Stafford thread cutter knife assembly.

This will appear to some to be a long drawn out way to correct filling breakage on the transfer, but it is good loom fixing because everything mentioned can, and does, have a direct affect on the transfer of the full bobbin from the battery into the shuttle. Regardless of the type battery or thread cutting arrangement being used, it has been my experience that the smooth face, the part that contacts the rings on the bobbin, transferrer will give much better results than the old type which has the notched, protruding face. On account of the continuous wear on the picker, it is impossible to prevent the shuttle from going deep enough in the box to prevent the butt end of the ingoing bobbin from striking the slide portion of the shuttle spring strap, and when this happens the inside ring on the bobbin will be thrown against the protruding part of the transferrer face and this will cause the small end of the ingoing bobbin to be snapped down far enough to break the strand of filling. The smooth face transferrer can be obtained by requesting them to replace the number of the ones now in use.

Drifting Smoke Rings Inspire Loom Builder

An unique new loom, the building of which was inspired by smoke rings drifting through the air, has been developed in Sweden. Civil Engineer Max Paabo, an Estonian refugee who fled to Sweden six years ago with his wife, sat one day looking at ships in the harbor at Norrkoping, Sweden. A Baltic fishing boat, her diesel engines idling, was tied to the dock and every few seconds smoke came from her funnel. A slight breeze carried away the smoke rings and they kept their shape for quite a long time.

Why not, wondered Engineer Paabo, carry thread in a loom the same way? With various objects bought in a junk shop he experimented. A bicycle pump produced an air current intended to do the work of the shuttle, and an old vacuum cleaner provided suction at the other end of the warp. Within three months, working in his apartment, Mr. Paabo made a model loom which worked; weaving fast and almost noiselessly. Taking his own initials, he called it the MP loom and secured world patents.

The president of the Swedish Society of Inventors, head of the Swedish Co-operative Union, with 30 factories and textile mills, backed Mr. Paabo in setting up a workshop and he is now making ten MP looms.

"The main advantage of the MP loom," the Swedish Society of Inventors reported, "is its speed. A mechanical shuttle cannot, because of its weight, be driven beyond a certain speed. But an air current between the warp threads has no such limitations." On his experimental model, he claims double the speed of the conventional shuttle loom.

The loom is said to be cheaper to handle and cheaper to build than looms now in existence. It is estimated that one girl could take care of 40 looms. No respooling is necessary. Some say Mr. Paabo's invention may revolutionize the textile industry for narrow fabrics, which represent considerable production.

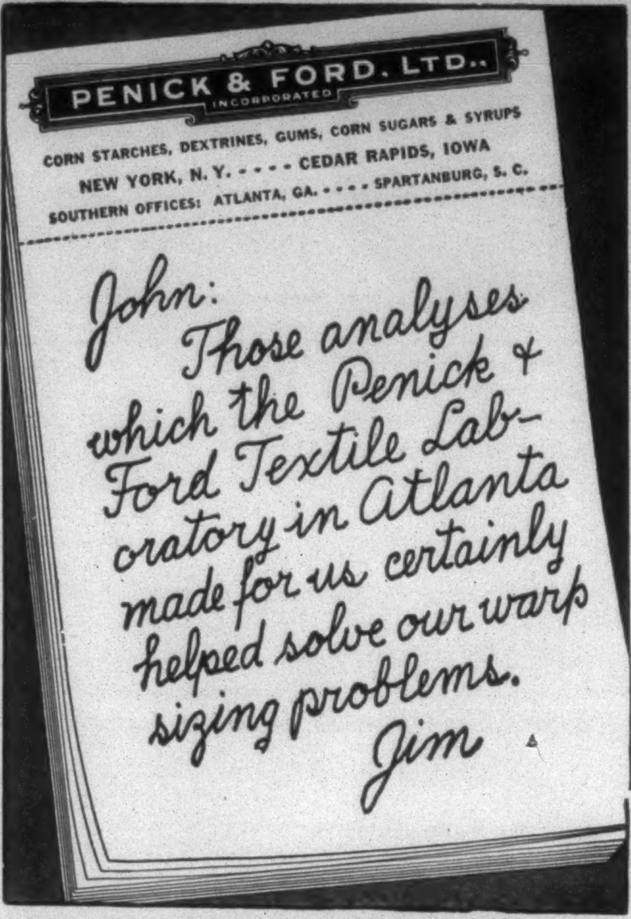
Eight-Denier Crimped Rayon Staple

Development of an eight-denier crimped rayon staple which yields fabric with a springy hand approximating wool 58-60s has been announced by American Viscose Corp. It fills a gap in the rayon staple line between 5½-denier, the coarsest apparel staple rayon made heretofore, and 15-denier carpet staple. The eight-denier staple is being produced on a pilot-plant scale. It is being used 100 per cent on a very limited commercial scale in men's and boys' sweaters, bath mats, and upholstery and drapery fabrics. Other possible uses, both for 100 per cent and for blends, are in men's hosiery, slacks, suitings, blankets, hand-knit yarns, knitted and wooly-type neckwear and terry cloth.

Fabrics made with the eight-denier staple have considerably more resiliency and spring than fabrics made with three or 5½-denier rayon staple. Stiff, bristly effects are possible, similar to those obtained with mohair and coarse apparel wools. It has been blended experimentally with mohair in frise and plush fabrics, and the results have been highly satisfactory. The eight-denier staple yields fabrics that cannot be approached with finer rayon staple or with cotton. On the other hand, bath mats and throw rugs made with the eight-denier staple are soft, luxurious, and easier on bare feet than wool rugs.

Another advantage of the eight-denier staple is that it can be spun on the cotton as well as the worsted and woolen systems. In fact, the applications now in limited commercial use include yarns spun of 100 per cent eight-denier staple on all three systems. Preliminary wear and abrasion tests indicate exceptional wearing qualities. Actual use tests are under way, but have not been completed.

American Viscose Corp. pointed out that it is not seeking to market the eight-denier staple now, since commercial production would have to be at the expense of other sizes the demand for which exceeds productive capacity. The company is interested, however, in encouraging experimental work with limited quantities, as it believes the future possibilities of eight-denier rayon staple are great.



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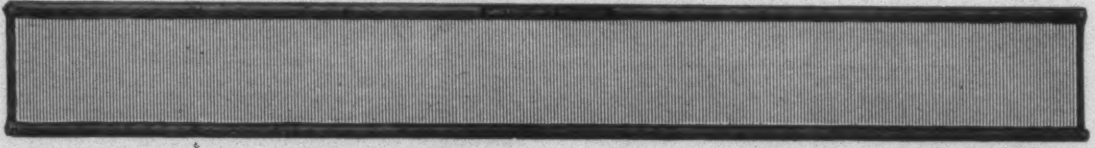

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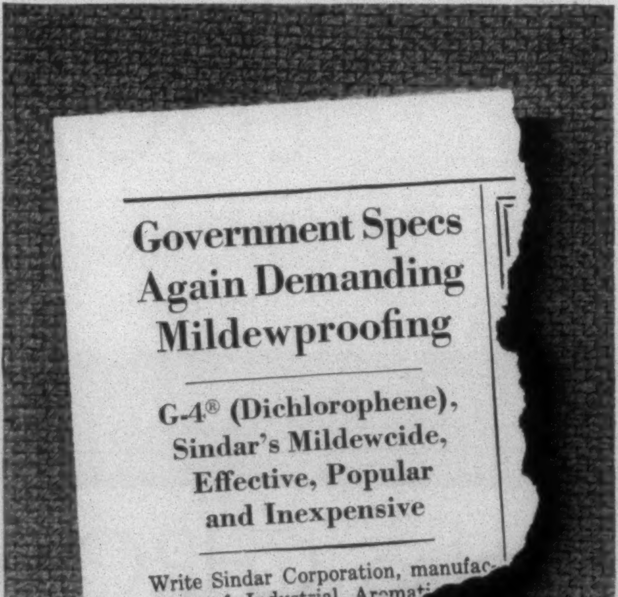

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Lightweight Fire Resistant Treatments

By ALLAN J. McQUADE, Head, Functional Finishes Laboratory

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THROUGH the increased use of highly combustible fuels, both in the form of weapons and in fuel for combat motive power, the danger to the individual combat soldier and his equipment from attack by fire has increased tremendously during the past ten years. As a result there has been considerable interest on the part of the Armed Forces in providing the quality of fire or flame resistance to many of the items furnished the service man.

The presence of large amounts of combustible material such as are available in the form of a tent or shelter provides considerable hazard. Also present within the shelter additional combustible material is provided in the form of bedding and mattresses. During World War II many of you acquired knowledge of the fire resistant treating process applied to 700,000,000 yards of duck. Its heavy weight, tendency for poor crocking resistance and the odor of mildew inhibiting agents and solvents are undoubtedly factors with which you have associated this treatment.

Today most firms in the textile industry are aware of the new requirements for the lightweight fire resistant treatment of a durable nature used in finishing fabrics for the Tent, Lightweight, Hexagonal. Light fabrics with a low increase in weight together with good crocking resistance and excellent flexing qualities highlight differences between these fabrics and the fabrics used previously in World War II. This tent is composed of two fabrics. The outer fabric is a five-ounce wind resistant twill treated for fire, water, and mildew resistance in accordance with requirements for Type I, Class C fabric of Military Specification MIL-C-342A. The liner or inner fabric is a four-ounce per square yard cotton sheeting treated for fire, water, and mildew resistance in accordance with U. S. Army Specification No. 100-79. This tent is designed for easy portability and use under the snowy and icy conditions. Therefore, some may feel that under such conditions a fire resistant treated tentage fabric might not be required. I would like to point out however, that in providing habitable living conditions within a tent at extreme low temperature, high intensity heating units are required. In burning various types of fuel dangers inherent to the operation of these heating units exists, especially when fuel oil and wood are used. This is due to the fact that using gasoline as a fuel within the stove there is complete combustion within the fire box. When fuel oil or wood are used, combustion is not complete within the fire box and considerable burning of the fuel takes place in the stack, thus elevating the stack temperature to the point where it is heated to cherry redness.

The effect of using non-fire resistant treated fabrics in this tent coupled with burning wood in the stove illustrates the possible effect very clearly. These lighter weight fire resistant finishes provide two distinct advantages over the antimony oxide-chlorinated hydrocarbon system that has been used previously. First their flexibility is not impaired by subjecting the fabrics to temperatures as low as minus 60° F. In addition, their add-on weight is only 20 per cent as compared to more than 60 per cent and results in a savings of approximately 13 pounds in the total weight of the tent over what it would have been had the fabrics been treated with the antimony oxide-chlorinated hydrocarbon system.

These new lighter weight, fire resistant treated fabrics have resulted in the combined effects of several factors: (a) the work carried out under research contracts at Columbia University and sponsored by the Quartermaster Corps during the period of 1943 through 1945; (b) developments from within the chemical industry; and (c) co-operation from members of the textile finishing industry in refining the application process that it be compatible with existing plant equipment and include all the properties desired for military usage.

Factors worked out in processing of these fabrics with metallic oxide treatments have been numerous. For instance, the development of the silica afterglow retardents and determination of the time and methods for suitably neutralizing the acids of the treating solution within the limits of existing equipment were subjects of study. It was also necessary to learn how to decrease the formation and facilitate removal of the surface precipitates. Lastly, the compatability of the metallic oxide treatment with various water repellents and mildew inhibiting combinations was determined.

Work on this type of treatment is by no means complete. In common with other fire resistant treatments dependent upon antimony oxide, the limited availability of this chemical in times of large scale procurements makes it desirable that substitutes or extenders should be available. It is recognized that the five-ounce twill fabric should be more wind resistant that the insulating qualities in this two-layer fabric system are improved.

Another factor common to nearly all fire resistant treatments requiring improvement is fabric tearing strength. Materials which will provide good tearing strength and sewing qualities without having a detrimental effect upon the benefits of a water repellent treatment should be developed. In addition, processing conditions should be improved in order that the effect of the treatment upon fabric color may be minimized. Furthermore additional work should be carried out upon highly alkaline agents to provide shorter neutralizing periods and thus allow the processsing of heavier weights of fabric within the limits of a dye range or seven-compartment washer.

In considering the problem of fire resistant clothing the following requirements for the fabric and finish are to be kept in mind: (1) low increase in weight; (2) good fabric flexibility; (3) permanency of treatment to water, salt water, soaping and dry cleaning; (4) freedom from deleterious action upon storage or conditions of use; (5) good air and water vapor permeability; (6) compatibility with other finishing agents; (7) free from harmful effects to the skin; and (8) prohibits the propagation of flame and limits afterglow.

The work to date has been centered about application of chemical treatments to cellulosic materials. Therefore, it is natural to ask why not employ clothing fabrics made of wool for this purpose. The natural properties of wool would provide the fire resistant fabric desired along with nearly all the other properties shown above. However, this is true within limits. A heavy dense fabric such as an 18-ounce serge does provide good flame resistance qualities. However, this fabric would impose a great heat load upon a man fighting in warm climates or in certain occupations such as a mechanic in a tank. Use of a lighter weight woolen fabric such as a 10½-ounce tropical worsted for such a purpose is not practical due to its combustibility.

As a result, flame resistant treatments for clothing have centered about their application to cellulosic fibers where they have shown possibilities for attaining the desired results. For this purpose practically every flame resistant treatment of a durable nature that has been brought to our attention has been evaluated to determine their properties with respect to the following: initial fire resistance (to afterflame, to afterglow, to char); increase in weight; hand; flexibility; resistance to crocking; resistance to dusting; effect on breaking strength (initially, after 15 cotton mobile laundering cycles, after outdoor exposure); effect on tear strength; sewability; wear resistance; effect of heat (pressing at 300° F. for one minute, 120 hours oven heating at 180° F.); resistance to mildew (soil contact, innoculation tests); durability of flame resistance qualities (laundering, outdoor exposure); effect on colors.

One property which is required for clothing purposes practically eliminates metallic oxide and antimony oxide-chlorinated hydrocarbon combinations used for tentage. Both have a basic deterrent in not providing good resistance to afterglow. There are three treatments, all of which involve the use of prosphates, which provide good resistance to afterglow and afterflame. As such, their glowing and flaming is limited to a period of two seconds after withdrawal of the flame source. One of these, the urea-phosphate system, is well known to many. However, its effect upon initial fabric strength and the loss in strength of such a treated fabric due to laundering have been detrimental and will reflect in poor wearing qualities. It is pointed out that when these two defects are corrected, poor durability of fire resistant qualities generally results. There is one resinous nitrogen phosphate treatment which has minimized the two major defects noted for the urea phosphate finish. However, there is still a possibility of impairing the initial strength of a cotton fabric. The wetting and drying cycles of laundering as well as the sour rinses also reduce strength during laundering. Furthermore, the tearing strength is markedly reduced, and cannot be restored to any significant extent by the use of aftertreating materials. Its effect upon fabric coloring can be readily noted but the changes are not to such a marked degree that they cannot be compensated for during the dyeing process.

Of the commercially available treatments tested to date, the resinous nitrogen phosphate appears to be the closest to imparting fire resistant qualities without detracting from other desirable characteristics of clothing fabric.

A third fire resistant treatment considered as having possibilities for clothing fabric is a halogenated phosphoric acid polymer. Preliminary tests have shown fabric with this finish to be quite durable to laundering. Thus it is regarded highly as a possible approach to obtaining a suitable fire resistant fabric. However, in its present form it is quite apparent that the means and methods for its manufacture must be simplified and thus made more economical. Furthermore, the compound should be produced in an emulsifiable state so as to permit wide-spread application for clothing fabrics using the present facilities of wet finishing plants.

In addition to the Department of the Army and Quartermaster Corps activities, other departments are vitally concerned with technical progress in the field of fire resistance. The Navy Department's Bureau of Ships is similarly concerned in order to provide treatments to textile items used on board ships, and together with the Quartermaster Corps. have jointly sponsored fundamental research work in universities.

In addition to treatments for cotton duck used for paulins, hatch covers, and tentage the Navy has issued specifications numbered 34L13 and 51T13 dealing with drapery fabrics and coated fabric upholstery. In addition, it has carried out considerable work on the formulating and packaging of water soluble fire retardent compounds. A compound for renewing the fire, water and mildew resistance properties of treated duck is also the subject of specification MIL 15159. The Navy Department has made considerable use of fiber properties in attaining their requirements for fire resistance. This is exemplified by the use of hair filled mattresses. Because of the property of fire resistance even though a cotton filling offers more in comfort and low cost, hair filled mattresses are used on board ship whenever possible. Like the Department of the Air Force, the Navy has carried out work on the protection of men in close proximity to flaming gasoline and steam.

In this presentation I have stressed that the interest of the three services in fire resistant treatments for textiles has expanded as is evidenced by the additional items with fire protective treatments now being procured or under development. Many difficult problems stand in the way of a complete solution to these requirements today. However, the progress made during the past several years has been very encouraging and has indicated that by judicious selection of fabrics, finishes and fibers more protection from the effects of fire can be afforded today to the combat service man and his equipment than has ever been possible in the past.

Both the foregoing paper and the one following were delivered at the Conference on New Fabrics for the Armed Forces held Feb. 28 at the Hotel Commodore, New York City, under the auspices of the American Association of Textile Technologists.

Construction Of Water Resistant Fabrics

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PROTECTION from rainfall is an essential requirement of the combat uniform. Under conditions such as exist in Korea during the early Spring and late Fall, and especially in the freezing rainfall of Winter, the ability to keep the insulating layers of the uniform dry is basic to the fighting efficiency of the combat soldier. The simplest solution for keeping rain out of the clothing under these conditions is to use a thin waterproof outer layer. However, because of its impermeability such a layer reduces heat losses to a point where the body approaches a condition of heat stress, and in addition, prevents the dissipation of perspiration so that the inner layers of clothing become wet even though no rain leaked through the raincoat. At lower temperatures the presence of moisture in the clothing, heated by the body, may lead to dangerous evaporative cooling. Considerable research effort has been devoted to finding a fabric which is completely impermeable to rainfall from without, and yet is moisture vapor permeable from within. Although no completely satisfactory solution to this problem has been found, the development of high textured wind resistant, water repellent fabrics such as the high sley oxfords originally developed at the Textile Institute in Manchester, England, come close to meeting these requirements. The addition of the water repellent treatment does not reduce the permeability of fabrics to water vapor and thus these materials can be worn continuously without interfering with the normal evaporation of perspiration from the skin.

A marked advance in the utilization of permeable type water repellent fabrics came with the introduction of the double layer principle where it was found that the effective resistance to penetration of two adjacent layers of water repellent fabrics was four to five times that of either layer by itself. Many water repellent garments and jackets procured by the armed services at the present time take advantage of this double layer principle.

A basic understanding of the factors contributing to the water resistance of textile structures has been made possible by a recent important testing innovation whereby it has been found that, under specified conditions, natural rainfall can be simulated in the three important parameters of intensity, drop size, and drop velocity. The development by the Quartermaster Laboratories of a series of nozzles[1] for this purpose installed in a "rain room" has facilitated the development of fabrics and combinations of fabrics of superior water resistance. An extensive rain course, making use of these nozzles, was set up by the Quartermaster Board at Fort Lee, Va. This course is used for final acceptance and approval of the design of water resistant fabrics and garments prior to standardization and procurement by the Quartermaster Corps.

With the development of the rain room and newer laboratory instruments for evaluating water repellency, the Quartermaster Laboratories made a detailed investigation of the effect of variations in fabric structure on the water resistance of textile materials. The data obtained in this study have furnished a vital clue to the engineering of water resistant structures by revealing that thickness (which has already been shown to be extremely important for wear resistance) and "tightness" are two most important factors to be considered in the design of water resistant fabrics. In carrying out this work a series of fabrics was designed based on the principles established by Dr. F. T. Peirce.[2] The fabrics were made in the oxford weave as originally developed by Dr. Peirce from combed, plied, mercerized cotton yarns of low twist. The yarns varied in size from 80/2 to 5/3 and the textures of the fabrics from 47x21 to 200x95. The weights varied from approximately six to 25 ounces per square yard and thicknesses ranged from 0.012 to 0.045 inch. After weaving, the fabrics were desized, scoured, treated with a durable water repellent and sanforized in full commercial lots. The fabrics were originally designed for maximum "tightness" or to have maximum cover factors, K, as defined by the following formula:

$$K = \frac{\text{yarns per inch}}{\sqrt{\text{count}}}$$

After finishing it was found that the cover factors varied from 26.6 to 32.5 in the warp and from 13.6 to 19.0 in the filling with the combined cover factor representing the sum of the warp and filling cover factors for individual fabrics ranging from 44.0 to 51.2. Throughout this work the sum of warp and filling cover factors was used as a measure of fabric tightness because it was found to correlate well with both laboratory and field evaluations. Only those fabrics which were shown to be uniformly treated with water repellent were analyzed in this study so that the comparisons made indicate only the contribution of structure to the

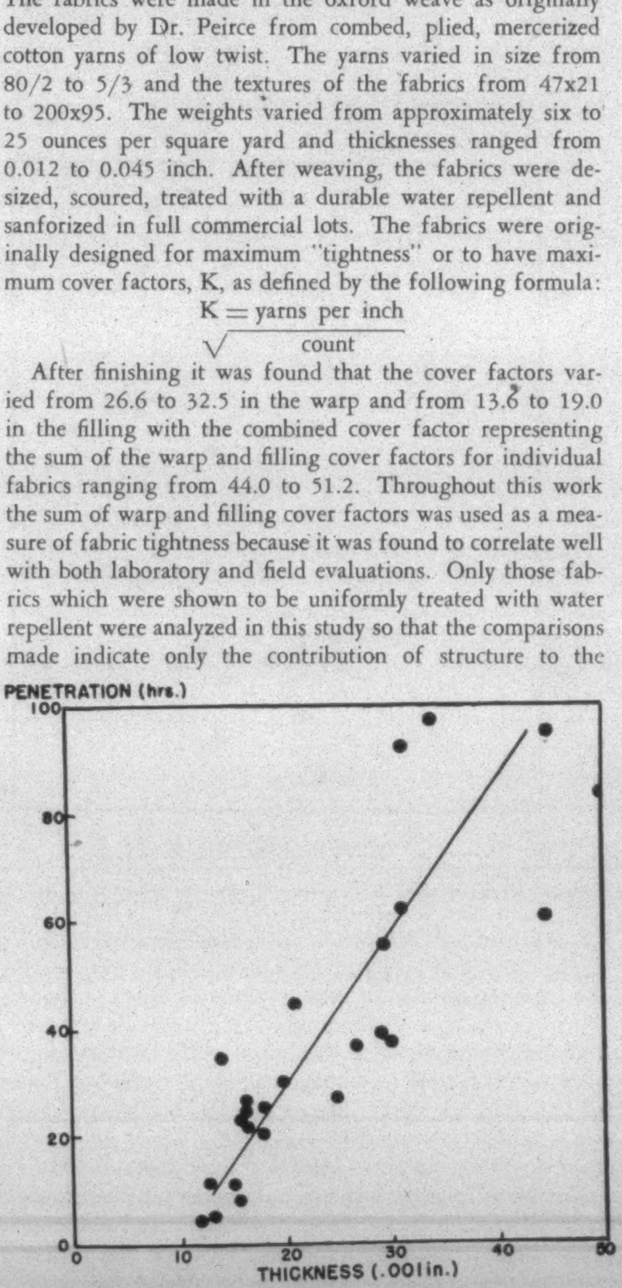

Fig. 1—Relationship between thickness and time required for penetration of 20 grams of water as measured in rain room.

water resistance of the fabric. Some of the major effects noted in analyzing this series of fabrics in the rain room at the Quartermaster Laboratories in Philadelphia and on standard laboratory test instruments are briefly described herein:

Resistance to penetration in the rain room was evaluated by observing the time required for 20 grams of water to penetrate the fabric as measured by the increase in weight of a backing material mounted on a hemicylindrical form under the test fabric.[3] It was found that the two most important factors governing penetration by simulated rainfall are thickness and tightness of the fabric structure. Fig. 1 shows that the time required for water to penetrate the fabric increases linearly with thickness, more than doubling for a twofold increase in thickness. Fig. 2 shows the relationship between penetration in the rain room and fabric tightness. The rapid increase in resistance to penetration as the sum of the warp and the filling cover factors is increased above 45 indicates that there is a critical tightness of weave necessary for water resistant fabrics.

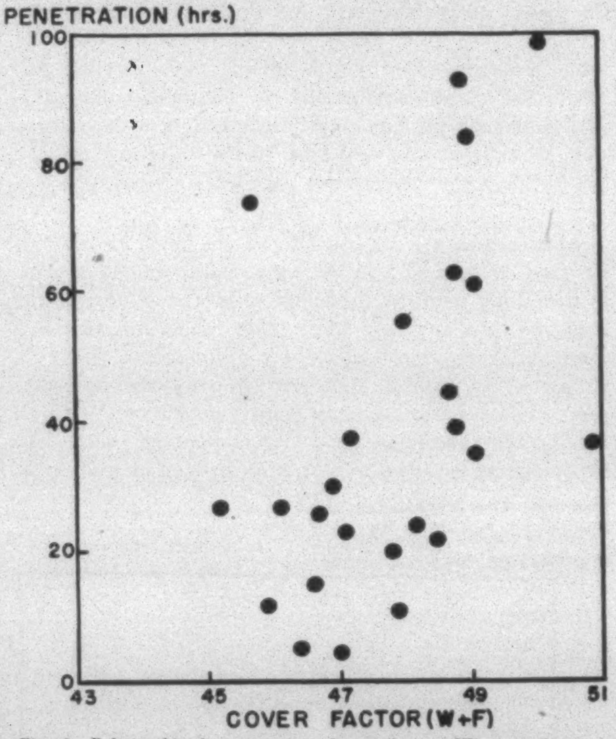

Fig. 2—Relationship between cover factor (warp, filling) and time required for penetration of 20 grams of water as measured in rain room.

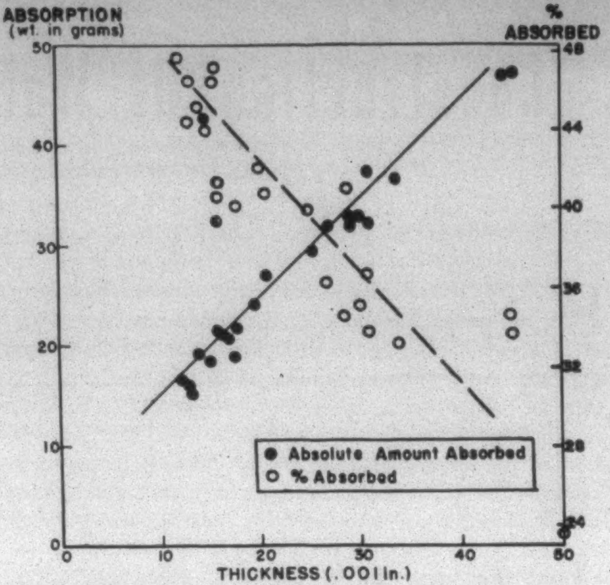

Fig. 3—Relationship between fabric thickness and absorption as measured in rain room.

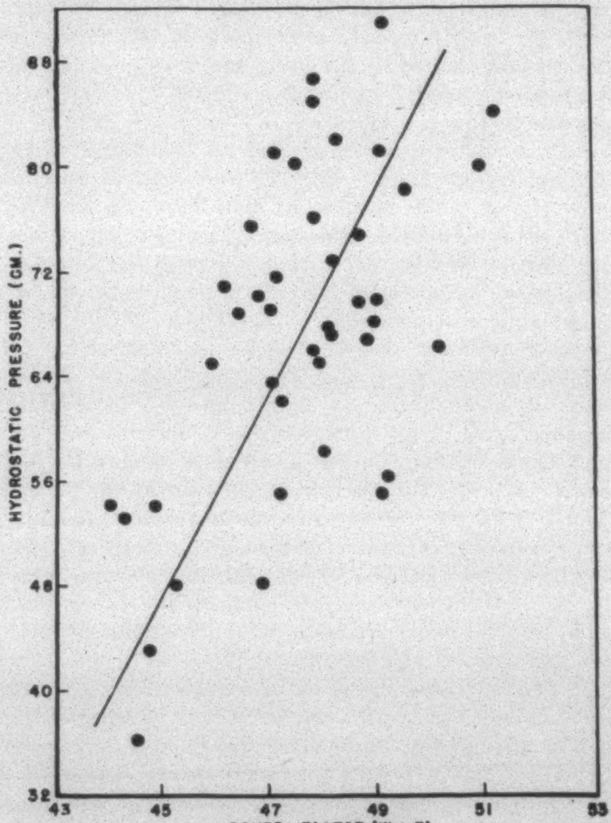

Fig. 4—Relationship between hydrostatic pressure and cover factor (warp, filling).

Simulated rainfall tests also demonstrate that the amount of water absorbed by a fabric is a function of its thickness. The greater absorption of thicker fabrics as shown in Fig. 3 reflects the increase in absorbing surface provided by the larger yarns. However, it should be noted that although this is true based on the absolute amount of water absorbed per unit area, the thicker fabrics actually absorb less water on a weight percentage basis. It is felt that lower absorption based on fabric weight is of more significance from the standpoint of comfort than lower absorption of water based on fabric area.

Laboratory tests showed trends similar to those noted for simulated rainfall; although it was found that some laboratory tests, such as hydrostatic resistance[4] and dynamic absorption,[4] reflect the importance of individual fabric properties on water resistance, while others, such as the drop penetration,[4] indicate the influence of groups of properties more like simulated rainfall. For example, as shown in Fig. 4, resistance to hydrostatic pressure increases linearly as the sum of the warp and filling cover factors increases. However, a significant relationship between hydrostatic resistance and thickness does not exist. On the other hand, dynamic absorption decreases as the thickness of the fabric increases but is much less affected by changes in the tightness of the fabric.

Typical laboratory penetration devices such as the Du Pont rain tester[5] and the drop penetration apparatus exhibit marked curvilinear relationships when penetration is plotted against thickness. For example, in Fig. 5 which shows the relationship between drop penetration and thickness, it may be noted that a very rapid change in the slope of the curve takes place at approximately 0.020 inches, which is in the fabric thickness range of most interest for lightweight water resistant fabrics. This is unfortunate and seriously limits the use of this type of equipment as a means of evaluating the effective water resistance of textile materials. The Du Pont rain tester shows a similar change in slope at approximately 0.020 inches. However, the penetration devices are similar to simulated rainfall in slowing the effect of fabric "tightness' on penetration. It may be noted in Fig. 6 that a rapid increase in resistance to penetration occurs as the cover factor sum exceeds 45.

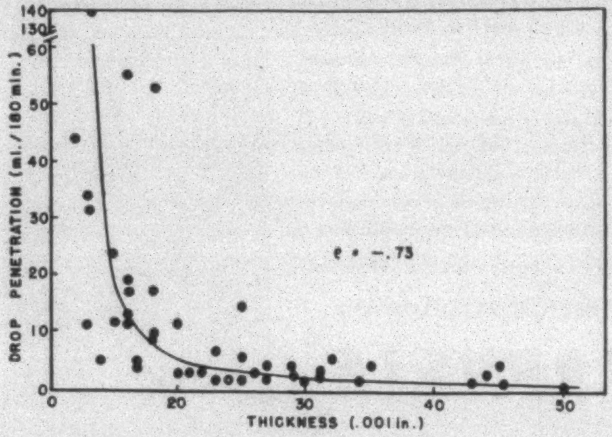

Fig. 5—Relationship between thickness and drop penetration of 47 fabrics.

In the absence of more refined evaluation techniques the hydrostatic resistance test may be used as an index of the contribution of tightness and the dynamic absorption test as an index of the contribution of thickness to the effective water resistance of textile fabrics. Thus, a simultaneous increase in hydrostatic resistance and a decrease in dynamic absorption indicates probable improved resistance to rain penetration in use.

Based on the results of the analysis of these data, it appears that for effective water resistance, fabrics should be construcetd to have a cover factor sum of 45 as a minimum and should be as thick as possible consistent with the weight limitation of the proposed application. The use of coarse, low density yarns is indicated to be an effective approach to making such fabrics.

Currently, a subcommittee of the National Research Council is working with our laboratory staff in Philadelphia to develop practical lightweight water resistant structures based on principles developed in studies such as this. The standard fabrics which are now used in such applications (Byrd cloth and oxfords) have serious limitations in that the tear strength in the filling direction becomes dangerously low as the tightness and cover of the fabric is increased. In addition, the fine combed yarns which are used in making these fabrics are in short supply at the present time and the armed services are having difficulty in obtaining sufficient capacity in industry to meet current demands for this type of material. The work of the committee has been directed toward experimenting with fabric weaves which are inherently more tear resistant, such as the sateen, and in addition, utilizing single and carded yarns which are more readily available. A program is also in progress to include the use of synthetic fibers especially in the filling direction of these fabrics. Some of the synthetics under consideration are subject to greater shrinkage during processing and will thus increase the tightness of the structure. Others, which are of higher strength than the natural fiber, will improve the tear strength of the fabrics. Further basic studies of the type described in this brief review are also underway to evaluate the relative contribution of yarn twist, spinning system and weave type on the inherent water resistance of textile structures.

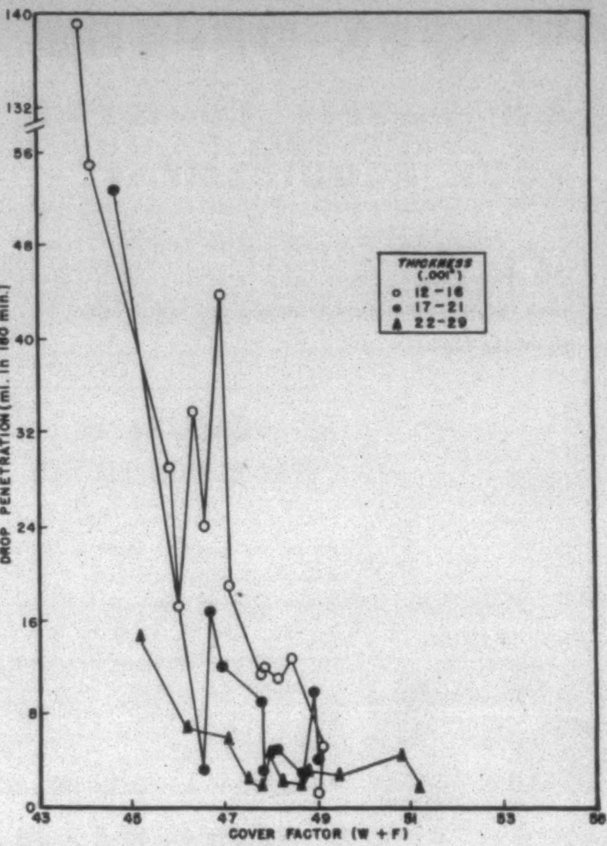

Fig. 6—Relationship between drop penetration and cover factor (warp, filling) within thickness groups.

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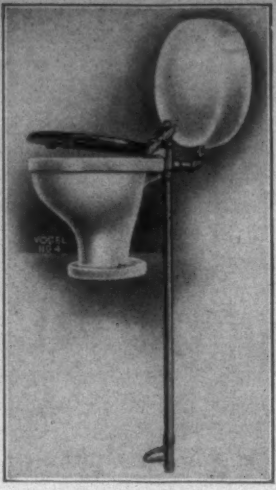

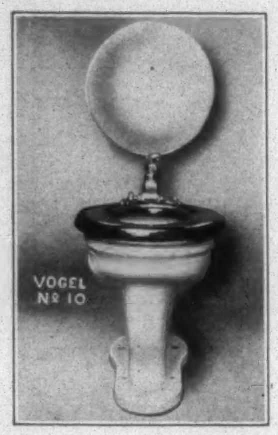

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By HARWELL HOWARD

PROBLEMS of mill maintenance received a thorough overhauling at the May 12 meeting of the Alabama Textile Operating Executives in the new Birmingham Chamber of Commerce building by representatives of mechanical, electrical, maintenance and supply departments of mills up and down the state.

First on the program was a talk by S. W. Quisenberry, national manager of maintenance sales for E. I. du Pont de Nemours & Co., Wilmington, Del. Speaking on "The Importance of Protective Coating in Mill and Village Maintenance," he named four basic points to be followed in painting at mill sites. They are surface preparation, selection of material, proper application and proper film thickness. "The fewer compromises you make with these four factors the fewer headaches you will have," he said. "You can save a lot of money by investigating paints thoroughly. No. 1 finish is the best for all conditions."

Emmett Warren, vice-president, Avondale Mills, Sylacauga, led the discussion group in nine main mechanical, electrical, maintenance, and supply questions. Before the floor discussions began, he called attention to the increasing mechanization of mills and the resulting importance of accuracy and workmanship among maintenance personnel. "We are becoming more and more dependent on the men who operate our machines," he said. "The day of sloppy mechanical operation is over."

Then the mill men got down to interested discussions of the questions which had been assembled and sent to them earlier by Ben H. Crawford of Southeastern Engineering Co., West Point, Ga., secretary-treasurer of the A.T.O.E. Mill men mailed their answers back to Mr. Crawford before the meeting. (Time did not allow every mill man to speak his mind on the questions. Some of the answers given below did not actually reach the floor of the meeting, but all the answers cited were received by Mr. Crawford. It is believed necessary to include such answers here to give an accurate cross-section of the opinions of the men at the meeting.)

In a discussion of the cost and advantage of metallizing equipment and the results of metallizing, a representative from Textron Southern, Inc., Cordova, told the group: "We find metallizing is a time and production saver in an emergency. We can re-claim the following items at approximately 30 to 35 per cent of the cost of a new part, with good results: card calender rolls, drawing calender rolls, card feed rolls, steel roll gear end bearing surfaces. Squeeze rollers on slashers are sprayed with copper. This prevents the cast iron from being eaten away. In an emergency we can use metallizing on any shaft or stud which does not require a key way."

At West Point Mfg. Co., Lanett, metallizing equipment is used through the entire plant "to build up all types of shafts that have become worn. Parts metallized include calender feed roll, doffer, motor, and motor shaft. The mill has not yet started a program of metallizing sand rolls for the looms. We are sure that there are distinct advantages in using this metallizing equipment but we do not have the breakdown cost for each individual item that is repaired. There is no doubt that, from the repair maintenance angle, metallizing is one of the most useful pieces of equipment."

Avondale Mills, Sylacauga, has successfully metallized sand rollers, compressor shafts up to six inches, crankshafts, motor shafts, pump shafts, and squeeze rollers. The mill has found that metallizing will frequently salvage these parts which could not be salvaged in any other way and "will frequently get a broken-down job running in short order." As an example, during the last war, one of the mill's large compressors, a 17x17 duplex, scored the crankshaft at the main bearing. A new shaft would have cost about $600 and delivery would have taken four months. The old shaft was metallized and is still running five to seven days a week. (The metallizing equipment, incidentally, cost less than $500.) This single job more than paid for the equipment. The Avondale representative suggested that anyone considering buying metallizing equipment should consult any one of the reputable manufacturers. The Sylacauga mill prefers grinding finish to tooling. It was suggested that no attempt be made to make "a welding machine out of your metal spraying equipment, since the tensile strength is very low." It was also suggested that the surface to be metallized should be prepared very carefully—"preparing coarse rough thread with good shoulders at end of build-up. Be sure of good bond."

Bemis Bros. Bag Co., at Bemiston, reported good results in metallizing these parts: doffer shafts, sprocket shafts, feed rolls, calender rolls, rocker shafts, slubber steel rollers in the card room; upright shafts and steel rollers in the spinning room; crank shafts, cam shafts, take-up rolls, copper size rolls, loom beams, loom motor rotor shafts, and compressor crankshafts in the weave room; feed rolls and calender rolls in the picker room; copper size rolls, warp beams, and delivery rolls in the slasher room.

The metallizing experience of the Russell Mfg. Co., Alexander City, was reported as limited, but the results noted have been satisfactory, not only from a money-saving standpoint, but also in restoring worn machine parts back to service much quicker. The mill builds up worn motor shafts from cards, feed roll journals, and has started metallizing sand rolls from looms. The mill figures metallizing worn shafts costs approximately 75 per cent of what welding costs would be. In the case of sand rolls, the mill figures the metallizing investment will be paid for in about one year from the cloth saved on the sand rolls.

A Fairfax Mill (West Point Mfg. Co.) representative did not agree with this. He reported, "From our experience with metallizing, we find that it is generally more expensive than arc-welding. The labor cost is higher and more time is needed to set up the equipment. Our use of this equipment has principally been on calender rolls on pickers, sand rolls and let-off rolls on looms and pump shafts, and has proven satisfactory. We have found that an old lathe should be used while metallizing as particles from the atomized metal collects on the lathe bed and causes excessive wear. An enclosure with an exhaust fan should be provided to house the metallizing equipment, because of fumes. Since our use for metallizing has been at a minimum, it is our opinion that if sufficient work is on hand to justify hiring an operator full time it would be well to buy and maintain metallizing equipment. Less machining is required since journals can be built up to closer tolerance than by arc-welding thereby saving a lot of machinist time."

At Huntsville Mfg. Co., Huntsville, "The cost of metallizing seems to be greater, on small jobs, than the cost of replacing with new parts. We never could build up over a key way or a shoulder with any degree of satisfaction. The weld breaks off around the key. It is very slow work and should be used on one lathe only. You can build up straight rollers very well—it usually has to be ground to finish it. Some rods can be turned in the lathe if the heat is kept to the point on the metallizer."

Cone Mills Corp., Dwight Division, Alabama City, did not report any cost figures on metallizing other than tin rollers. Including cleaning and preparing the roll for metallizing the cost was figured at about .085 per linear inch. That included one coat of .80 carbon steel and one coat of No. 2 stainless steel. The Alabama City mill uses metallizing equipment "quite extensively" on all kinds of jobs such as loom crankshafts, spinning steel, roll necks, all kinds of studs, and all sorts of shafts. The mill did not report much success in metallizing slasher size rolls. Results were reported as good on all jobs metallized. Metallizing saves the mill money.

Metallizing equipment at Columbus (Ga.) Mfg. Co. represents a sizable investment, but it has so many advantages that the investment is considered minor. Some of the uses reported are: water pump repairs, including building up on packing sleeves and shafts. This job alone was said to be worth the investment since the pump is repaired much quicker than if the shaft and sleeves were made from raw stock.

Some of the answers to the next question—"What air pressure do you maintain for cleaning?" were:

Textron Southern, Inc., Cordova—"35 pounds." Lanett Mills, Lanett—"We maintain two levels of air pressure. One is maintained at 80 pounds for blowing off frames and cleaning purposes; the other is 40 pounds pressure which is used in conjunction with the humidifying system where atomizers are used." Avondale Mills, Sylacauga—"90 to 100 pounds at the compressor tanks." Bemis Bros. Bag Co., Bemiston—"65 pounds." Russell Mfg. Co., Alexander City—"75 pounds." West Point, Fairfax—"70 pounds." Huntsville Mfg. Co., Huntsville—"70 to 75 pounds." Cone Mills Corp., Dwight Division, Alabama City—"Between 75 and 80-pound air pressure at the compressor room. Some of our lines run about 750 feet." Columbus (Ga.) Mfg. Co.—"We have only about 50 pounds of air. We are putting in more air compressors to try and get 100 pounds. I would say 150 pounds would be very satisfactory." Avondale Mills, Alexander City—"80 to 90 pounds." West Point, Langdale—"About 70 pounds." West Boylston Mfg. Co., Montgomery—"45 to 50 pounds." Pepperell Mfg. Co., Pepperell—"Between 70 and 80 pounds at the storage tanks."

Anniston Mfg. Co., Anniston—"Cleaning should be broken down into different types, since the same air pressure is not necessary for all types of cleaning. Where one compressor is used to supply air for all cleaning, you must decide on one pressure and that pressure should be sufficient to do the toughest job. Where more than one compressor is used for supplying air for cleaning, the air for the toughest job can be taken from the higher pressure supply and the not-so-tough job taken from a lower pressure. The toughest job of cleaning at this mill is in the weave room—50 pounds will clean some, get the surface, but that is about all—60 pounds does better—70 pounds is good, but 80 pounds are necessary to do a thorough job while not taking too much time. The same job can be done on 70 pounds but because it takes longer, 80 pounds is probably the most desirable for the weave room. At the Anniston mill, 60 pounds will do a thorough job in the card and spinning rooms. You can clean with lower pressure but again it takes so much longer. You might say, the higher the humidity you maintain in a room, the higher the pressure required for proper cleaning. This covers walls, ceilings, piping, etc. In cleaning machines, the higher the required humidity, the higher the air pressure. Various processes will require different volumes and velocities of air. The volume of air can be increased by having a larger opening, but in order to get increased velocity with the same volume, you must have higher pressure. At this mill, with the exception of the compressors used to furnish air to atomizers used with the humidifying system, all compressors are capable of 100 pounds pressure at their rated capacities. These are set to load at 77 pounds and to unload at 84 pounds. Air pressure reducing valves are used on supply lines where less than air receiver tank pressure is required.

The next question on "What is the best and most economical way to keep water and oil out of air lines?" drew the following replies:

Textron Southern, Inc., Cordova—"Proper lubrication and attention to air compressors is one of the first steps to keep oil from the air lines. We have a water trap between condenser and receiving tank. We have air filters and condensing tanks in the feed lines to keep water and oil out." West Point, Lanett—"By keeping receivers as cool as possible, keeping air filters clean, keeping storage tanks, drained, keeping small filters on air line clean." Avondale Mills, Sylacauga—"Adequate after-coolers, proper grading to lines to traps and stone filters in places where especially clean air is wanted. It is very important to watch the amount of oil admitted to machine cylinders. This is usually too high. It is advisable to follow manufacturers' recommendation as to correct drop per minute from lubricator. Bemis Bros. Bag Co., Bemiston—"By use of a condensation trap and by periodic drainage of storage tanks." West Point, Fairfax—"By using proper after-cooler, air filters and condensate traps. The automatic lubricator on the compressor should be checked to insure that too much oil is not being discharged."

Huntsville Mfg. Co., Huntsville—"We have filters that we watch very closely and we have blow down valves on the ends of each air line and also on our storage tanks. We blow these down regularly." Cone Mills Corp., Dwight Division, Alabama City—"We have some porous stone filters that are helpful in keeping water out of the air and we also use traps. Both are good but at times we are bothered with moisture in the air." Avondale Mills, Alexander City—"We use traps on receivers and after-coolers and stone filters on line." West Point, Langdale—"We use after-cooler and separator with air traps. This is in addition to the regular after-cooler between air compressor and receiver tank. The extra after-cooler is placed in the line running from the receiver to the plant."

West Boylston Mfg. Co., Montgomery—"By having adequate after-cooler capacity and by using baffle or cyclone type separator between after-cooler and receiver. Good traps on separator and receiver will remove all the water and oil provided the compressor cylinder is not over-lubricated." Pepperell Mfg. Co., Pepperell—"The most effective way of removing water and oil from compressed air is to have after-coolers of sufficient capacity to cool the air to a temperature lower than mill room temperature. The air should then go through a separator and into the storage tank, dropping the oil and water, which can be trapped out. When the compressed air leaves the storage tank comparatively cool and enters the warmer mill lines, its capacity to hold moisture increases because of the temperature rise. It will not give up moisture under these conditions. For extremely delicate instruments or air-operated controls, it is necessary to further insure clean air by installing porous stone filters or filters packed with absorbent cotton so that there will be no chance of oil or moisture being left in the air."

Anniston Mfg. Co., Anniston—"It is very difficult to keep water and oil out of the supply line that leaves the air receiver. Of course, it can be done with an elaborate system of filters. The comments that follow are in regard to eliminating oil and water at the point at which it is used. The most practical method of eliminating a great deal of water and oil is through the installation of an after-cooler and separator between the compressor and air receiver. The installation of a trap at the separator will keep the separator drained and very little water and oil will be carried over to the air receiver. However, some will collect in the bottom of the receiver. The receiver can be blown manually or a trap can be installed there. Even though water and oil collect at these two places, they will still get in the supply lines and headers. Supply lines should be run up hill and headers should be fitted with traps at the low point. This should practically eliminate all water and oil. Should the air be required to be absolutely free of water and oil, a filter should be put at the point of usage. Filters at the discharge of the air receiver will do an excellent job, but they cost a lot and require maintenance. Traps can be eliminated and lines drained annually, but you have to pay for a man's time."

Opinions as to whether it is better, from a money-saving standpoint, (1) to keep a maximum amount of labor on hand in a textile machine shop to make most of the gears, shafts, and studs for the general supply department, or (2) to maintain a minimum amount of labor for emergency and maintenance work were divided. Mills favoring having a maximum amount of labor included Bemis Bros. Bag Co., Russell Mfg. Co., Huntsville Mfg. Co., and Columbus Mfg. Co. Those believing a minimum amount of labor should be maintained included: Textron Southern, Inc., Cone Mills Corp., Dwight Divison, Avondale Mills, and Pepperell Mills.

Then, moving from the mechanical phase of the discussion to the electrical phase, delegates to the meeting first outlined their system of cleaning and maintaining fluorescent fixtures. At Textron Southern, the fixtures are cleaned weekly and taken down and washed annually. Fixtures are checked when bulbs are replaced. The maintenance program on fluorescent fixtures at Lanett Mill includes: thoroughly cleaning the reflectors and channels by washing with water and a cleaning agent once every six months; replacing lamps that have spent "their useful life" even though they have not burned out when reflectors are cleaned; making necessary repairs on such defective parts as lamp-holders, channels, reflectors—and replacing them if they cannot be repaired; refinishing corroded channels and reflectors when cleaning. After cleaning and necessary re-lamping there is an average increase of foot candles of 30 per cent, the mill reported.

The responsibility for this work at Avondale Mills, Sylacauga, is assigned to the chief electrician. Other pointers, furnished by a mill representative: "Sufficient men should be available to replace tubes and starters and to clean the reflectors. Tubes should be dated when installed. We have only recently tried to look after our fixtures, starting off with one electrician and one labor helper. Results so far have been very satisfactory. We do know that it is going to take more men since we have 4,500 fixtures, some located in extremely dusty and dirty places."

At Bemis Bros. Bag Co., lamps are replaced after visual inspection. Fluorescent fixtures at the Russell Mfg. Co. are cleaned periodically by washing and wiping the reflectors. The plant endeavors to maintain the installation of new

***At left*, R. B. Horsley, superintendent of Pepperell (Ala.) Mfg. Co. and retiring chairman of the Alabama Textile Operating Executives, stands beside S. W. Quisenberry, a speaker during the May 12 meeting. *At right*, Emmett Warren, vice-president of Avondale Mills at Sylacauga, leads the group in a discussion of mill maintenance and engineering topics.**

tubes and starters every day. Personnel in each department of Fairfax Mill clean the fluorescent fixtures. When the fixtures are in need of repairs, a department supervisor will send an order to the electrical shop and an electrician does the repair work necessary.

Huntsville Mfg. Co. reported that the company had recently assigned a man to the job of cleaning fixtures. He uses a cloth to wipe off the lint and a cleaner to brighten them up. Electricians make the necessary replacement of tubes, starters, etc. Personnel in each department of the Dwight Division, Cone Mills Corp., keep fixtures in their departments clean. A man from the shop replaces burned out tubes and does all necessary repair work. Similarly, at Columbus Mfg. Co., each department is responsible for cleaning its own fixtures. One man is assigned to about 2,000 fixtures.

"The old system of letting each department re-lamp and clean fixtures has been recently changed to a group changing program, handled entirely by the electrical department," Langdale reported. "At planned intervals when the foot candles of light drop to a minimum standard, an electrical crew washes all fixtures and replaces all tubes by departments. The work is scheduled in a continuous cycle. This system is now being installed and we do not have data on what it saves at this time." The cleaning of fixtures is the responsibility of each department at Pepperell Mfg. Co. The cleaner (who also has other duties) cleans the reflectors in the weave rooms every two weeks. In the spinning and card rooms, the reflectors are washed every six months. Lint which collects on fixtures is blown from the fixtures in the spinning and carding departments each day when the ceiling is cleaned with compressed air.

Here is a round-up of the experience of leading Alabama mills with maintaining motors, starters, and transformers—the next discussion subject on the electrical phase of the program: Avondale Mills, Alexander City—"All motors except loom motors are taken down and cleaned once a year. Starters are cleaned when they give trouble. Compensators every six months. Loom switches every 90 days." Textron Southern, Inc.—"Ball-bearing motors are greased quarterly. Sleeve-bearing motors are oiled monthly and oil changed annually. Motors are gauged and the insulation test made quarterly. Starters and fuses are checked quarterly. Transformers are checked and serviced annually. . . . It is extremely important to use the right size heaters and fuses."

Avondale Mills, Sylacauga—"We rewind our motors. One man oils all electric motors. At the time of oiling, he does whatever inspecting he can without interfering with production. Anything requiring attention is noted and taken care of when the machine may be down. Starters and transformers are inspected monthly, mainly for heating." Bemis Bros. Bag Co.—"We keep motors clean and properly lubricated. Starters are kept clean and contacts adjusted. Transformers are almost trouble-free and require very little maintenance." Russell Mfg. Co.—"Once a year, all motors are marked for thorough cleaning. Sleeve type and ball bearings are washed out with new oils and greases added. Those controls which are subject to severe service are maintained more frequently. Transformers are watched and when filtering of the oils is advisable, we filter such transformers until the oil is clean and once again serviceable."

Fairfax Mill—"We clean and oil our motors once each week. Ball-bearing motors are cleaned every three months. A record is kept of the dates this is done; when possible the same personnel does this work every three months. This makes them responsible for the job and usually produces better results than were obtained by alternating personnel. We check transformer oil once a year." Huntsville Mfg. Co.—"At present, our motors are being run six days and nights a week. At the end of each week all of our large motors are blown out and oiled. Our loom motors and several other small motors are cleaned and oiled on schedule. We have several lint-free ball-bearing motors that do not need much attention. Our transformers and starters are checked each vacation week, once a year—the contacts are sanded, the oil changed and whatever tightening up and repairing that is needed is done."

Cone Mills Corp., Dwight Division—"We have a very strict oiling schedule for all sleeve-bearing motors. On our ball-bearing motors we do not tear them down to grease, nor do we add grease. We just change the bearing when we have a failure. We try to dismantle all our spinning motors at least every three years. We inspect the winding, bearings, etc. We give the winding a coat of air-drying varnish and paint the frame and change all bearings that need changing. . . . About three times a year, we go over our starters and change contacts and tighten all connections and clean them out. . . . On transformers, we check oil level and connections once a year." Columbus Mfg. Co.—"We do not have a maintenance program for motors other than blowing them out and oiling them. The reason for this is that we have a great many motors and very few extras. Motors usually indicate when they need service by becoming over-heated. Our starters and transformers are checked regularly. We find that starters need contacts frequently. On some types of starters this is caused when the motor is started by closing the switch slowly instead of rapidly. Contacts will burn when the switch is closed slowly. Transformers—especially outside ones—need a lot of attention. Bushings get extremely dirty and can cause a lot of damage. Oil should be checked regularly. The lightning arrester should be kept clean."

West Boylston Mfg. Co.—"We check air gap every six months; blow out motors and check oil weekly on sleeve type bearings; remove, clean and relubricate anti-friction bearings every 36 months; blow out all starters approximately every 300 hours; check contacts and spring pressure when cleaned. On transformers, we check oil level every Spring and then check cores for sludge; if circulating passages are closed with sludge, we drain oil, clean out sludge, and replace with new oil; we use a chart showing dates of inspections, lubrication, and cleaning." Langdale Mill—"Motors are cleaned daily with compressed air. Motor lubrication follows this schedule—sealed bearings every five years; ball bearings every six months; plain bearings every two weeks. Cleaning and overhauling of starters in opening, picking and carding sections is done every month. In all other departments it is done every two months. Oil is changed in oil switches at six months intervals. Very little maintenance is required for transformers since most of them are air-cooled."

Pepperell Mfg. Co.—"The cleaning of open motors with compressed air is done by the various departments. The lint and dust are blown from motor-windings once a week while they are stopped. It would be desirable to clean spin-

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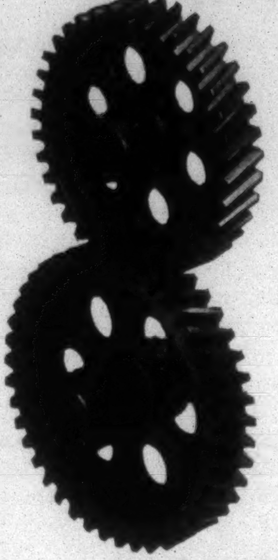

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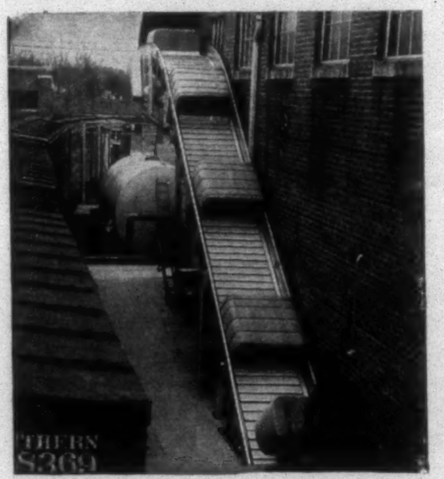

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ning motors once a day, especially if they are not lint-free motors. All ball-bearing motors are greased once a year. All sleeve-bearing, ring-oiled motors are oiled or checked once a week. All waste-packed loom motor bearings are oiled once a month. Rotor clearances are checked once a year on sleeve-bearing motors, 20 h.p. and larger. Any of the larger motors whose windings seem to need it are painted with glyptal. We have no regular schedule for checking windings or clearances on 10 h.p. and smaller motors, which are mostly ball-bearing motors and floor mounted. We feel that it is not worthwhile to check clearances on these ball-bearing motors as our experience is that ball bearings do not fail gradually as sleeve bearings are likely to do.

"Most floor-mounted motors in textile mills (such as spinning motors) should not have mush windings. They should have slick windings, made that way by use of compound or bakelite shields. We don't believe that it is worthwhile to inspect such windings as another coat of varnish or glyptal would not penetrate enough to be of real value. The maintenance required on larger size motor starters, such as manually operated reduced voltage starters, is dependent upon the frequency of operation and the one who operates them. We have found that where motors are started on Monday and run all week without stopping, the contacts are in very good shape after each six-month check. Overload relays should be operated to see if they are sticking, and all connections should be checked for looseness at this time. Oil is changed about once a year, dependent upon the accumulation of dirt and lint. Smaller starters, such as spinning motor magnetics, should be checked and cleaned every six months. On such starters that are operated so often, it does not seem worthwhile to try to replace or keep up with contact points before they go bad, since such contacts lose their ability to conduct current properly a short time after sustaining their first damage. The most important thing to check on all motor starters is the motor overload device. It should be checked to see if it has the proper rating to protect the motor from single phase or overloaded conditions. Transformers used in mill operation are checked yearly for bad oil. The small transformers feeding individual blocks of houses in a village where it is known there is not an overloaded condition seldom give any trouble. Once every five or six years should be often enough to check these."

Lanett Mill—"All open general purpose type motors that are not mounted directly on the floor are cleaned once every two weeks with compressed air. Motors mounted directly on the floor in the spinning rooms are cleaned twice a week. All motors equipped with lint screens are dismantled and cleaned once every four to six months depending on room conditions. On this type of motor, excessively worn bearings are replaced, windings painted with an oil-resisting varnish and any other necessary repairs are made. The cleaners, who are electricians, check for any necessary repairs and report them to the electric shop supervisor. All of the 4,000 motors in the plant get a general overhauling and repair job every 24 or 48 months, depending on the size of the motor and the severity of service. Air gap gauges are used once every six months to determine the extent of bearing wear on the larger motors. Load checks with a clamp on the ammeter are made once a year on the larger motors and on group drive motors. When an abnormal condition is found, the recording watt meter is installed on the motor to provide a better and more accurate check on the motor. All d.c. machines are checked each week for possible repairs. Loom motors are checked once every month for miscellaneous repairs.

"All magnetic type starters are cleaned once every month or once every six months depending on the type and location of the starter. An effort is made to keep all knock-out holes covered to keep lint and foreign material out. The contacts and wiring on this type of starter are checked once every six months, as are the over-load relays and relay heaters. Any necessary repair or replacement work is done at this time. All loom motor starters are checked once a month for miscellaneous repairs and once every three years for possible replacement. A thorough check on closed relay heaters is made once every six months. All manual oil switch reduced voltage starting compensators are checked thoroughly once every six months. Oil in the starters is changed every 12 months. So far as transformers are concerned, all substations are checked once every four months. Loads, temperatures, switch gears, and general operating conditions are noted and necessary adjustments and repairs are made. All dry-type, ventilated lighting transformers are cleaned every six months. The oil is checked every 12 months on oil type transformers for moisture and correct oil level. The extent of corrosion on tanks is noted. They are repainted when necessary. Protective grounding on all electrical equipment is checked every 12 months. Besides, it is checked on motors and starters when other checks are made."

J. H. Boddie, superintendent of maintenance at Tallassee Mills, pretty much took the spotlight during the next discussion dealing with centralized lubrication and productive machinery maintenance. That suited the others at the meeting for he made a very enlightening report. "Our program of centralized maintenance covers maintenance on all production machinery from opening machinery through cloth inspection and packing machinery. The program is set up on schedules. Every machine is overhauled in cycles. The length of the cycles is determined by observation and experience as to the length of time the machine will give practical, trouble-free operation. This program is carried out by a department separate from the various production departments. The department is organized into groups with the following personnel and duties:

"Group 1 has a foreman, three crews, and a head overhauler in each crew. The first crew is responsible for the following machinery: openers, pickers, waste machinery, slashing, beaming and all cloth room machinery. The second crew is responsible for the cards. The third crew is responsible for drawing, roving and rope machinery. Group 2 also has a foreman, three crews, with one head overhauler in each crew. All crews are responsible for the following machinery: spinning, twisting, winders, quillers and quill strippers. Group 3 has a foreman and four two-man crews. It is responsible for routine overhauling of looms only. Spare section men are drawn from this group. Group 4 has a foreman and one crew. It is responsible for all humidifiers, air changers, air conditioning equipment, refrigeration, water coolers, and lubrication equipment repair.

Mr. Boddie said that equipment at Tallassee Mills with an overhauling frequency of six months included waste machines, openers, pickers, roving machines, drawing machines, rope machines, quillers, and winders. Other overhauling frequencies cited by Mr. Boddie were spinning frames, twisters, quill machines, cloth machinery (calenders, folders, inspection tables), eight months; cloth brushers and shearers, two months; humidifiers (complete overhauling), two years; water coolers, as needed; looms, 12 months; card grinding (three-hour grind), 235 card hours. (Repairs are made to cards when they are stopped for setting.) Monthly reports were made to management about progress and major materials used, according to Mr. Boddie.

Concerning the lubrication program at Tallassee, Mr. Boddie continued: "It is a generally accepted fact that without a good lubrication program, preventive maintenance, or any other kinds of maintenance, is ineffective. Therefore, it is necessary for the lubrication personnel to be a part of, or to work very closely with, personnel in the maintenance department. In our case, the lubrication program is set up within the maintenance department, that is, the lubrication personnel are under the direct supervision of the foreman responsible for the maintenance of the various machines. The frequency of application, methods and the type of lubricants used are determined by the combined efforts of the technical and maintenance department along with the department overseer whose machines are being serviced. In many instances, we have been able to install a centralized lubrication system on machines with a resulting saving in man-hours and lubricants and intangible gains such as fewer seconds due to cleanliness and lower costs for replacing parts by lubricating bearings better in 'hard to get at' places. Machines that we have equipped with such a system are looms, roving frames, pickers, spinning frames, twister frames, rope machines, waste machines, quill strippers, gear cutters, and cloth brushers. Electric-powered grease guns are used advantageously on machines where a lot of grease type bearings are required. The lubricants are stored at conveniently-located stations and, so far as practicable, they are not transferred from the containers they are shipped in. Through the use of barrel pumps, there is less likelihood of contamination and it is much easier to keep the storage areas clean."

Little time was spent discussing village maintenance. Several spokesmen said that the villages at their mills had been sold to employees. Others said that the maintenance of their mills was operated as a regular department of the mill with groups of workmen responsible to the village overseer. In some cases, village maintenance was reported as being handled entirely under contract. A Langdale representative said that mill had no regular order of village maintenance; work was done when needed.

The next discussion dealt with methods of cleaning and maintaining humidifying systems. Columbus Mfg. Co. uses wet duct, central station, and window units with air change in its humidifying system. Dwight Division, Cone Mills, reported that it had three types of humidifying systems—central station, wet duct, and atomizers. "Maintenance is not high on the central station system, which is in the spinning mill," a Dwight spokesman said. "We drain and wash it every week. One man on each shift keeps an eye on the different units and unstops any nozzle that gets clogged with lint. He also watches the water level. The atomizers and the wet duct systems are in the weave mill. In one room, we have about 650 heads and in another we have about 450 heads and eight wet ducts. We completely dismantle and clean the atomizers twice a year and we clean the fronts of all heads once a month. Maintenance is high on the wet ducts in the weave rooms."

At Fairfax Mill, dry ducts, central station, atomizers without air change, and window units are used. Very little cleaning is required for dry ducts there, except around the intake. This cleaning is done every six weeks. "Lint is removed from the central station by a self-cleaning revolving screen and the water is pumped back into the washer. The washer is cleaned once a week with a water hose. The unit is cleaned and painted once every six months to minimize corrosion. The return screen is cleaned once every 24 hours. The supply outlets of the atomizers are cleaned weekly. When the atomizers become clogged, they are reported to the shop foreman." The Fairfax spokesman went on to say that the mill maintained regulators and recorders for each system. "Charts on the recorders are changed each day or week, depending on the type of recorder. The regulators are cleaned and checked once a day. An employee who has had special training in humidity control does the necessary repairs and regulating of the recorders and regulators."

Textron Southern, Inc., had an interesting reply to the final question: How are worn parts salvaged and put back in the supply room for re-distribution, and who is responsible for deciding what is to be salvaged? "A specific place is designated in the departments for all fixers and overhaulers to place worn or broken parts which they have taken off the machine," a Textron Southern representative reported. "In the weaving department, for instance, the loom fixers are instructed to keep such parts on their respective work benches until about 30 minutes before the shift change. This allows the head loom fixers, second hands, and overseer to examine these parts any time during the shift. When something is broken, the pieces are tied together by the fixer who takes them off the loom.

"Just before the shift change, all these parts are put in a 'scrap box.' Once every 24 hours, this box is taken to the repair shop by an overhauler. He returns all parts which he considers serviceable to the supply room. These parts are inspected by the supply department. If they are found to be O.K., they are put in the bins for redistribution. The shop foreman and the welder separate the scrap parts from those to be repaired. The repair shop and the supply department work closely in deciding which parts are to be repaired. Sometimes it is necessary to consult the overseer and the master mechanic in reaching this decision. Consideration is always given to the cost of new parts compared with the cost of repairing old parts. In some instances, during critical times, parts are repaired even though the difference in the cost of the new parts and the cost of repaired parts does not justify it. Once a week, the repaired parts are sent from the shop to the supply room for redistribution."

At the meeting, J. W. Patterson, superintendent of Tallassee Mills, was named general chairman of the Alabama Textile Operating Executives. He succeeds R. B. Horsley, superintendent of Pepperell Mfg. Co., Pepperell, Ala., who presided at the meeting. Henry Lanier, general superintendent of Cowikee Mills, Eufaula, was elected vice-general chairman, and Ben H. Crawford, Southeastern Engineering Co., West Point, Ga., was re-elected secretary-treasurer.

Members of the group's executive board are H. M. Clark, superintendent, Avondale Mills, Pell City; Henry Johnson, vice-president, Buck Creek Cotton Mills, Siluria; Albert Johnson, assistant superintendent, Lanett Mills, Lanett; C.

A. McAbee, superintendent, Huntsville Mfg. Co., Huntsville; W. E. Williams, superintendent, Avondale Mills, Sylacauga; Grady Webb, assistant superintendent, Langdale Mills, Langdale; Homer Roberts, manager, Anniston Mfg. Co., Anniston; and J. D. Whatley, superintendent, Textron Southern, Inc., Cordova.

The next meeting of the group will be held this Fall on the campus of Alabama Polytechnic Institute, Auburn. Weaving and slashing questions will be discussed at that time.

State College Graduates In Norway

(By David Clark)

Recent graduates of the School of Textiles at North Carolina State College will be interested in the present activities of the very fine group of Norwegian boys who graduated from the School of Textiles.

When David Clark, Mrs. Clark and Dean Malcolm E. (Sandy) Campbell arrived at the airport at Oslo, Norway, on the afternoon of May 11, after a very long flight from Amsterdam, Holland, they were met by "Shorty" Runhovde and Olav Torgersen, both of the class of '49, and by Mrs. Torgersen.

From then on they were looked after by those two and by Erik Lorentzen, '48, and Hans Egelund, '48, and every possible courtesy and attention was shown them.

On the first morning they were taken for lunch to a club on a nearby mountain and also shown the ski jump which is to be used for the 1952 Olympic ski contests.

That afternoon they visited Lauritsen and Sorensen's Tuketagefabriker, which is a knitting mill operated by Tor Sorensen, father of Kare Sorensen, who was to graduate from the School of Textiles at N. C. State College in June and become assistant manager of his father's plant.

They make full-fashioned hosiery, ladies' seamless hosiery, a wide variety of half-hose and also knit underwear.

That night Erik Lorentzen entertained at a six-course dinner at the home of his father and mother in Oslo. His parents were in Paris, France, at that time. After dinner we enjoyed the very beautiful paintings which adorned the walls. (The group picture below was taken after the dinner.)

The next day we drove about 70 miles across the mountains to Notodden, Norway, where Erik Lorentzen lives and is sales manager of a filament rayon plant known as Kunstsilkefabrikken Aksjeselskap. The capacity of the plant is now being doubled with the installation of machinery from England. It was impossible to secure dollars and buy American machinery.

Mrs. Lorentzen joined us for lunch and brought with her Erik's eight-months-old son.

The next day we were shown many interesting things around Oslo including parks filled with magnificent bronze statues.

We saw the building in which the traitor Quisling was hanged and those who have read the book *Kon-Tiki* will be interested to know that we saw and inspected the raft which was used and had later been towed to Oslo and we also talked to two members of the original crew.

Picture Taken at Oslo, Norway

(Flashlight picture taken after a dinner in the home of the father of Erik Lorentzen)

Left to Right, Malcolm E. Campbell, Dean of School of Textiles at North Carolina State College, Tore (Shorty) Runhovde, Mrs. David Clark, Hans Egelund, Olav Torgersen, David Clark, Erik Lorentzen.

On the fourth day David Clark and Mrs. Clark left by plane for Stockholm, Sweden, but Sandy Campbell remained in Norway for several more days and finally flew to England where he found Geo. H. (Floopie) Dunlap, who had arrived by plane from the United States as a member of an American delegation sent by the United States to inspect English mills.

The Norwegian graduates of the School of Textiles at North Carolina State College, whom we met, are located as follows:

Tore (Shorty) Runhovde, '49, is superintendent of Moss Bomuldsuaevei, a mill manufacturing denims and work clothes at Moss, Norway. (He expects to come over to the School of Textiles Conclave this Fall).

Erik Lorentzen, '48, is sales manager for Kunstsilkefabrikken Aksjeselskap, the only plant in Noarway manufacturing filament rayon. His family own the controlling interest in the mill. (There is also one plant manufacturing cut rayon).

Olav Torgersen, '49, is superintendent of Hjula Weaving Mills at Fredrikstad, Norway.

Hans Egelund, '48, is superintendent of Lillestroan Trikotanefabrik at Lillestroan, Norway, which manufactures men's knit underwear similar to the product of the P. H. Hanes Knitting Co. at Winston-Salem, N. C. He spent six months in the P. H. Hanes plant before returning to Norway and is a great admirer of P. H. Hanes and P. H. Hanes, Jr.

Kare Sorensen, '51, who has just graduated at the School of Textiles at State College, is returning to Norway to become assistant to his father, who is director of Lauritsen & Sorensen's Trikotagefabricker at Oslo.

There are a number of other Norwegian graduates of the School of Textiles at N. C. State College and all are doing well, but we did not have a chance to meet them while in Norway.

Taken as a whole, we have never met a finer group of young men than the Norwegian boys who attended North Carolina State College nor is there a more loyal group of State College alumni anywhere.

Contest To Help Mobilize Lighting Knowledge

First details of the recently announced 1952 Merit Award Competition, sponsored by the Fourth International Lighting Exposition, were released recently by G. T. Morrow, chairman of the Merit Award committee. "The purpose and objective of the 1952 Merit Award Competition as well as the Fourth International Lighting Exposition, to be held in Cleveland May 6-9, 1952, is to help mobilize lighting knowledge for a stronger America from the standpoint of the latest equipment, installation methods, and application techniques," says Mr. Morrow.

This competition affords an opportunity to receive the industry's highest recognition for outstanding lighting installations with 25 Gold Seal Awards and additional Merit Award Certificates, and also an opportunity for successful entries to be exhibited in the Court of Honor at the Fourth International Lighting Exposition and Conference.

Inviting all to enter, and help "Mobilize Lighting Knowledge to Advance America's Welfare," the chairman urged prompt application for official entry blanks which are now available to electrical contractors, utility lighting and power representatives, electrical distributors' lighting specialists and salesmen, architects and consulting engineers, and owners and users of industrial and commercial lighting.

Requests for application blanks and copies of official rule booklets should be addressed to: Merit Award Competition, Fourth International Lighting Exposition and Conference, 326 West Madison Street, Room 818, Chicago 6, Ill. The Fourth International Lighting Exposition and Conference and the 1952 Merit Award Competition are sponsored by the industrial and commercial lighting equipment section of the National Electrical Manufacturers Association.

Cotton Goods Truckers Win Minor Victory

A minor victory was scored in Raleigh, N. C., June 13 by truckers opposed to a trend toward higher rates when they were given permission to publish rates a few cents lower per 100 pounds on unfinished cotton piece goods between Pineville and Greensboro, and between Reidsville and Greensboro, N. C. The State Utilities Commission issued an order permitting trucking companies to raise the minimum load from 20,000 to 24,000 pounds. A utilities commission official explained that the higher minimum, which tends to reduce rates to a certain extent, was required to prevent discrimination between the aforementioned shipping points and others within the state.

A rate of 29 cents per 100 pounds had been sought by several trucking firms on a 20,000-pound minimum between Pineville and Greensboro and 20 cents on the same minimum between Reidsville and Greensboro. But the commission allowed the rate to apply to a 24,000-pound minimum load.

The commission spokesman further explained that the commission was told by the truckers that the regularity of shipments had led to conditions under which they could expect to make a profit at reduced rates.

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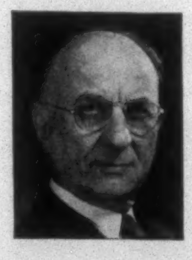
Promotions, Resignations, Honors, Transfers, Appointments, Elections, Civic and Associational Activities

PERSONAL NEWS

John Staples resigned May 25 as group manager of three spun rayon plants of Burlington Mills Corp. in Gaston County, N. C. He was manager of the Ranlo, Flint No. 1 and Modena plants of Burlington Mills. No successor was named immediately.

James O. Wynn has been elected president of Sandoz Chemical Works, Inc., and a director of Cincinnati Chemical Works, Inc., to succeed the late Ernest D. Gossweiler, who founded Sandoz in 1919. Mr. Wynn is an attorney and has been a member of the firm's board of directors for some years.

Sidney Tager, a vice-president in charge of yarn production for Associated Spinners, Inc., is now in Europe at the invitation of several continental spinners to explain the Delaine modification of the American system for spinning fine worsted and synthetic yarns. Mr. Tager in turn will study the latest European techniques. He will visit England, France, Belgium, Switzerland and Italy. Associated's Delaine plant is located in Gastonia, N. C.



Dr. Frederick Bonnet *(left)* recently was honored at commencement exercises of North Carolina State College, Raleigh, when he was presented the honorary degree of Doctor of Textiles. Dr. Bonnet has played an important part in the development of man-made fibers in this country. Although retired in 1948 as director of the standards department of American Viscose Corp., he has been retained as special advisor to the president of that corporation because of his unusual ability. . . . John S. Patterson, public relations director for J. P. Stevens & Co., Inc., Carter Fabrics Group, Greensboro, N. C., presented diplomas to graduates of the North Carolina Vocational Textile School, Belmont, at commencement exercises June 6. . . . Maj.-Gen. Herman Feldman, Quartermaster General of the U. S. Army, Dr. John H. Dillon, director of The Textile Foundation and of the Textile Research Institute, and Kenneth R. Fox, vice-president in charge of technical services at Burlington Mills Corp., were presented honorary Masters of Science degrees at commencement exercises June 4 of Lowell (Mass.) Textile Institute. . . . Reuben B. Pitts, retired textile executive of Camden, S. C., on June 4 received the honorary degree of Doctor of Laws from Furman University, Greenville, S. C. . . . The degree of Doctor of Business Administration was conferred on Julius W. Abernathy of Newton, N. C., president of Carolina Mills, Inc., by Catawba College, Salisbury, N. C. . . . J. Spencer Love, chairman of the board of directors of Burlington Mills Corp., delivered the baccalaureate address May 28 at graduation exercises at Elon College, Elon College, N. C. . . . D. A. Purcell, superintendent of the blanket mill of Fieldcrest Mills at Draper, N. C., recently was elected first vice-president of the North Carolina State College General Alumni Association. . . . S. R. Brookshire, a partner in Engineering Sales Co. of Charlotte, N. C., recently was elected president of the Charlotte-Mecklenburg County Chapter of the Duke University Alumni Association. . . . Walter M. Williams, executive vice-president and chairman of the board of Virginia Mills, Inc., Swepsonville, N. C., was honored last month when a new high school at Burlington, N. C., was named the Walter M. Williams High School. Mr. and Mrs. Williams gave more than $70,000 to help finance the new school. . . . R. A. Spaugh, Jr., of Winston-Salem, N. C., president of Washington Mills Co. at Mayodan, N. C., and Fries, Va., has been elected first vice-president of the University of North Carolina (Chapel Hill) Alumni Association. Retiring president of the alumni group is Harold Lindberger, an officer of several textile plants at Belmont, N. C.

Ellison S. McKissick of Greenville, S. C., president and treasurer of Alice Mfg. Co., Easley, S. C., has been elected a director of Cannon Mills Co., Kannapolis, N. C., to fill the unexpired term of the late George W. Fraker. Mr. McKissick, long prominent in Southern textile circles, is a former president of the American Cotton Manufacturers Association.

Harry S. Drum has been elected president of Smith, Drum & Co. of Philadelphia, Pa., builders of dyeing and finishing machinery, succeeding the late Parker M. Smith.. Robert N. Smith has been named vice-president and treasurer in charge of sales and administration, and John P. G. Patton has been elected vice-president and secretary in charge of manufacturing and engineering. William C. Dodson has been appointed special assistant to President Drum. The sales organization and other personnel of the company remain unchanged.

William H. Ruffin of Durham, N. C., president of Erwin Mills, Inc., and president of the National Association of Manufacturers, was honored May 26 when he was named "Man of the Year for 1951" by the North Carolina State College Chapter of Phi Psi, national honorary textile fraternity. Mr. Ruffin was awarded an engraved trophy and was lauded for his civic, educational and industrial accomplishments during Phi Psi's annual banquet held at Raleigh, N. C. Prof. Thomas R. Hart, director of instruction in the School of Textiles at North Carolina State College, presented the trophy to Mr. Ruffin and read a citation in honor of the industrialist. . . . Mr. Ruffin was inducted as an honorary member of Phi Psi as were J. C. Cowan, president of Burlington Mills Corp., and J. B. Gaither, faculty member in the School of Textiles.

William K. Child and Walter M. Mitchell have been elected vice-presidents of the Draper Corp. Mr. Child was elected vice-president and general sales manager and will transfer his headquarters from Spartanburg, S. C., to Hopedale, Mass., and take up his new duties Sept. 1. Mr. Mitchell was elected vice-president in charge of Southern sales and will transfer his headquarters from Atlanta, Ga., to Spartanburg on Sept. 1. . . . After these transfers have been effected, Erwin N. Darrin, vice-president and general sales manager, will relinquish his activities in connection with the sales department and will devote his time to other executive duties in the corporation.

W. W. Fischer has been appointed sales manager for Hardesty & Co. of New York City. He has been associated with the firm for a number of years. A modern plant in Philadelphia, Pa., for the production of stearic acid, red oil, glycerine and various fatty acids has just been completed and the company is rapidly expanding.

Wilbur K. Tattersall, formerly assistant sales manager in the colored goods department of Wellington, Sears Co., has been named chief of the cotton section of the Office of Price Stabilization. He succeeds William H. Brayer, who resigned to return to his duties as vice-president of Cone Export & Commission Co. Mr. Tattersall was an O.P.S. consultant in the cotton section prior to his promotion.

Charles Armstrong, Jr., formerly a department supervisor in the finishing plant of Chatham Mfg. Co., Elikn, N. C., has been called to active duty as a first lieutenant with the U. S. Army Quartermaster Corps and is now stationed in the New York area.

Phillip Cleaveland, superintendent of the Oakleaf Plant of Calloway Mills Co. at LaGrange, Ga., has been named membership and fund-raising chairman for the LaGrange District in the 1951 American Cancer Society's annual campaign.

J. Spencer Love, chairman of the board of Burlington Mills Corp., recently was selected as the nation's outstanding businessman in the textile industry in a survey conducted by *Forbes Magazine of Business*. Mr. Love received 20 per cent of the ballots, seven per cent higher than any other textile leader. . . . Two members of J. P. Stevens & Co., Inc., tied for second place in the textile executives group. J. P. Stevens, Jr., president, and R. T. Stevens, chairman, each received 13 per cent of the survey ballots. . . . C. A. Cannon, president of Cannon Mills Co., Kannapolis, N. C., tied with Elliott White Springs, president of Springs Cotton Mills, Lancaster, S. C., for sixth place in the textile field. Each received nine per cent of the ballots.

F. Charles Sorton, who until recently was in charge of research, development, sales and service for the tricot machines of Whitin Machine Works at Whitinsville, Mass., has resigned from Whitin to become an independent technical consultant to the tricot knitting industry with headquarters at 177 Lansdowne Road, Warwick, R. I. His new work will include assistance to established tricot plants in their manufacturing problems, research and engineering for anyone desiring to have an idea developed, and for new plants, laying out mills for proper work flow, organizing and systematizing production, training workers and designing fabrics. Mr. Sorton graduated from Massachusetts Institute of Technology in 1926 and joined Whitin Machine Works 19 years ago as a research and development engineer. He was placed in charge of tricot machines when Whitin began building them 12 years ago, and is the designer of the Whitin Models C and C2.

Charles L. Sickles, formerly assistant superintendent of textile operations for the State of Iowa at Fort Madison, Iowa, is now overseer of spinning at the Nelson Plant of American Yarn & Processing Co. at Mount Holly, N. C.

C. H. White, who for several years has been the North Carolina representative for Marquette Metal Products Co., Cleveland, Ohio, producer of roller bearing spindles and other products, in the future will represent the company in South Carolina as well as North Carolina. He has moved his headquarters from Greensboro to Charlotte, N. C., in order to be closer to the center of the two Carolinas.

W. S. Jones, master mechanic for the past 33 years at Marion (N. C.) Mfg. Co., was retired May 1 and has been succeeded by Oren W Greene, his assistant for the past ten years. . . . The May issue of the company publication, *Picks and Hanks*, was dedicated to Mr. Jones and featured his picture on the cover.

Milford W. Ashley has been promoted to card room overseer at the Riverside Plant of Textron Southern, Inc., Anderson, S. C. He is a 1949 graduate of the Clemson College School of Textiles.

Norman Craigue has been succeeded by Bill Cotty as works engineer at the Martinsville, Va., plant of E. I. du Pont de Nemours & Co., Inc. Mr. Craigue has been transferred to the office of the director of production, nylon division, at Wilmington, Del. . . . Dr. George E. Holbrook, manager of the plant development section of Du Pont's organic chemical department, has been named assistant director of the company's development department. Mr. Holbrook was appointed by Henry E. Ford who became director of the department June 1, stepping up from assistant director with

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the retirement of Dr. Ernest K. Gladding. . . . Manfred Keller, for the past eight years special assistant to Robert L. Richards, general manager of the Du Pont rayon department, has been appointed manager of a newly established service section of the department's planning division. Matters formerly handled by Mr. Weller, as special assistant, have now been made the responsibility of the planning division. In other rayon department personnel shifts Walter C. Eberlin, assistant director, acetate research section, the Benger laboratory, Waynesboro, Va., and Allan A. Wiggins, Jr., sales development specialist, acetate sales, Wilmington, were transferred to the planning division, the former as manager of the engineering section; and Dr. Frederick R. Millhiser, technical superintendent, Waynesboro rayon plant, was promoted to assistant director in charge of Orlon acrylic fiber research at the Benger laboratory. . . . Dr. Cole Coolidge was appointed June 4 to be director of the chemical department of the Du Pont Co., effective July 1. He succeeds Dr. Elmer K. Bolton who will retire from the company June 30 after 21 years as director. Dr. Coolidge has been assistant director of the department since 1939.

Nathan M. Shippe, in addition to his duties as foreign sales manager for H & B American Machine Co., will take over the supervision of all advertising and publicity matters in the absence of James Cruickshank, who has been called to active duty with the U. S. Navy.

George B. Cramer has resigned from his post as head of the textile section of the Economic Co-operation Administration's industry division in Paris, France. He will return to the U. S. late this Summer. Mr. Cramer formerly was an official of Cramerton (N. C.) Mills, now a division of Burlington Mills Corp.

James M. Burcham, head of the scouring plant of Chatham Mfg. Co., Elkin, N. C., recently was elected president of the Elkin Lions Club for 1951-52. . . . Ernest C. Hulsey, secretary of Dundee Mills at Griffin, Ga., has been elected president of the Griffin Rotary Club.

Robert L. Huffines, Jr., president of Burlington Mills Corp., recently was elected to the board of directors of American Broadcasting Company-United Paramount Theaters.

C. S. Clegg, president and treasurer of Globe Mills Co., Mount Holly, N. C., recently was elected a district governor by the North Carolina Lions Club. John L. Stickley, yarn broker of Charlotte, N. C., was endorsed by the state group for the post of international director. His election, expected to be a mere formality, will come at the international convention scheduled at Atlantic City, N. J., this month.

Roland H. Gray, vice-president of the textile plants of Goodyear Tire & Rubber Co. at Atco and Rockmart, Ga., and at Decatur, Ala., has been transferred to Charleston, Ind., as resident manager of the Hoosier Unit of Indiana Arsenal. . . . Roy Bethune has been promoted to become head of the machine design and production development department of the Atco, Rock-

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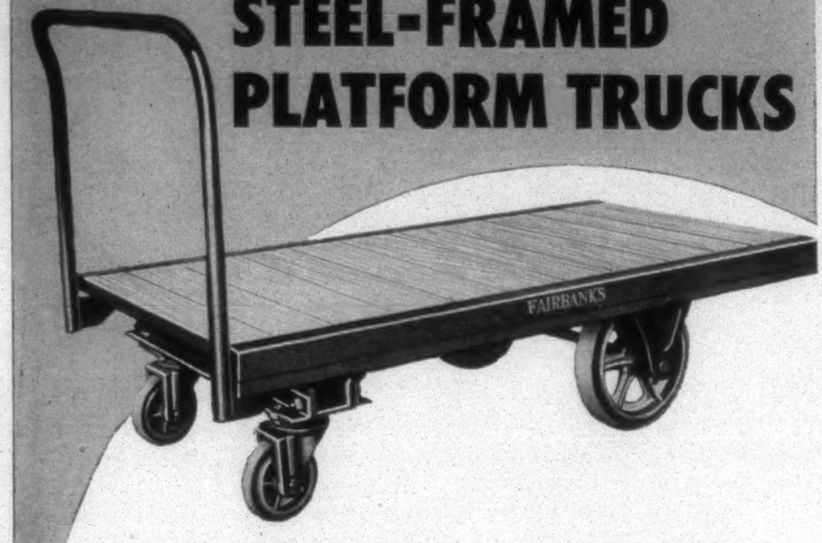

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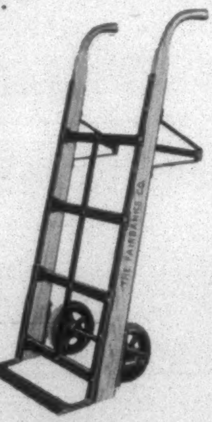

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mart, Cedartown, Ga. and Decatur, Ala. plants of Goodyear. . . . Joe Rowland has been promoted to assistant superintendent for the second shift in the Atco plant. Succeeding Mr. Rowland will be Harold V. Edwards, who moves to the Atco plant from the Rockmart plant.

Ned C. McCallister, formery overseer of weaving and acting superintendent, has been named superintendent at Linda Cotton Mills, Cowpens, S. C. . . . Ben Hyder was promoted from second hand to succeed Mr. McCallister as overseer of weaving, and Mr. Hyder in turn was succeeded as second hand by A. F. Quinn.

James L. Hill has been appointed personnel manager of the Victor Plant of Victory Monaghan Co. at Greer, S. C. Mr. Hill is a 1949 graduate of Furman University, Greenville, S. C., and for the past year has been teaching and coaching athletics at Duncan (S. C.) High School.

Daniel A. McCanless has been named manager of United Rayon Mills, Elberton, Ga., a unit of United Merchants & Manufacturers, Inc. Mr. McCanless, a graduate of North Carolina State College School of Textiles, joined U. M. & M. in 1948 as superintendent of United Rayon Mills. . . . Carl A. Boggs, general manager of the Elberton division and the Statesville, N. C., division of the firm, will continue to make his headquarters at Elberton.

William E. Meeks, for the past three years a member of the industrial engineering department in the Lynchburg, Va., division of Consolidated Textile Co., Inc., has been transferred to the New York office of the firm where he is serving as assistant to the vice-president in charge of the sales department. . . . Frank Aultice, who has been assistant overseer of warp spinning on the third shift, has been transferred to the industrial engineering department to succeed Mr. Meeks. . . . Ray Benson, who has been with consolidated since March 30, 1948, has been named to succeed Mr. Aultice as assistant overseer of warp spinning on the third shift.

Jack Welborn has been promoted from overseer of finishing to an assistant superintendent at the dyeing and finishing plant of Riegel Textile Corp. at Trion, Ga. Mr. Welborn has been associated with Riegel for five years and previously was with Pacific Mills, Lyman, S. C., for 12 years. . . . D. C. Alexander, a native of Trion, has been named to succeed Mr. Welborn as overseer.

E. Warren Best has been appointed yarn sales manager of the Charlotte, N. C., office of Celanese Corp. of America. Mr. Best will be assistant to K. C. Loughlin who was recently named a vice-president of Celanese in charge of Southern sales.

Lionel Rogosin has been named vice-president of Beaunit Mills, Inc. Mr. Rogosin joined the company in 1948 and since June, 1950, has been head of the company's textile fabrics operations. . . . Hastings W. Baker has been appointed assistant secretary of Beaunit.

Francis Burr, formerly with Monsanto Chemical Co. and well known in the textile industry, has joined Burlington Mills Corp. to assist in resin control and development. Currently Mr. Burr's duties will be concerned with crease-proofing resins used in the finishing of synthetic suitings. He will concentrate his time and efforts both in the study of resin use on fabrics now in manufacture by Burlington Mills and the development of new resin finishes. He will be located at the Bur-Mil laboratory in Greensboro, N. C., and his activities will be under the direction of John Neely, technical advisor of dyeing and finishing.

Percy S. Howe, Jr., president of American Thread Co., has been named chairman of the notions committee of the 1951 Cerebral Palsy Society's campaign to raise $750,000.

David W. Anderson has been appointed service manager of the Fiberglas textile products division of Owens-Corning Fiberglas Corp. Mr. Anderson, who joined Fiberglas in 1945, succeeds Owen C. Divan who recently was appointed service manager of the new Fiberglas yarn plant at Anderson, S. C.

James D. Wise, president of Bigelow-Sanford Carpet Co., New York, recently was honored by the American Management Association by being elected to the newly-created post of vice-president of the association's general management division.

J. Gilbert Mohr has been transferred from the glass technology section of the research division of Libby-Owens-Ford Glass Co. to become quality control manager of the new fiber glass division at Parkersburg, W. Va. Before joining L-O-F about four years ago, Mr. Mohr was associated with Corning Glass Works and E. I. du Pont de Nemours & Co., Inc.

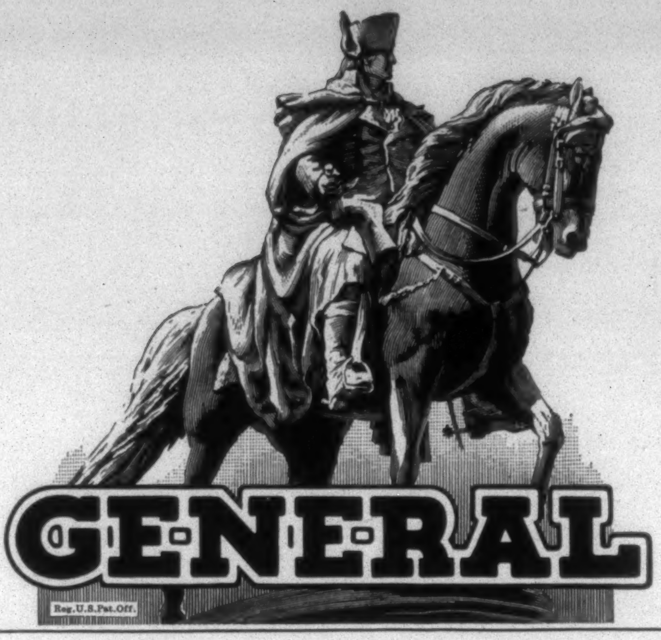
W. H. Wolfe, superintendent of the carding department at Martha Mills, Thomaston, Ga., recently was elected president of the Thomaston Lions Club for 1951-52.

Zebulon B. Lane, Jr., and Travis J. Martin recently received promotions in the United Merchants & Manufacturers textile chain. Mr. Lane, formerly manager of United Rayon Mills, Old Fort, N. C., was transferred to Clarkesville, Ga., as manager of the firm's new rayon weaving mill there. Mr. Martin was elevated from superintendent to manager at Old Fort succeeding Mr. Lane. Mr. Lane joined U.M. & M. in 1940 and Mr. Martin joined the concern in 1946.

James L. Eskridge is resigning from his post with Burlington Mills Corp. to join Stonecutter Mills Corp., Spindale, N. C., where he will assist in the manufacturing phase of the business.

Jack Yaun of Graniteville, S. C., has been appointed assistant dyer in the cotton division of North Carolina Finishing Co., Salisbury, N. C. Before joining North Carolina Finishing Co. Mr. Yaun was associated with Gregg Dyeing & Finishing Co. at Graniteville.

Alester G. Furman, Jr., of Greenville, S. C., has been made a member of the board of directors of Utica & Mohawk Mills, Inc. . . . Howard O. Chapman, formerly assist-



RODA

High grade gas, by-product, steam and household stoker coal from Wise County, Virginia, on the Interstate Railroad.

DENDRON

High grade gas, by-product, steam and domestic coal from Wise County, Va., on the Interstate Railroad.

STONEGA

High grade, high volatile steam and by-product coal from Wise County, Va., on the Interstate Railroad.

GLENBROOK

The Premium Kentucky High Splint unmatched for domestic use. Produced in Harlan County, Kentucky, on the L. & N. Railroad.

COKE

Roda and Stonega from Wise County, Va.

CRITERION COAL

High grade gas, by-product, steam and domestic coal—Pittsburgh seam from Irwin Basin, Westmoreland County, Pennsylvania, on the Penna. Railroad.

HAMPTON COAL

High volatile domestic, steam and by-product coal from Boone and Logan Counties, W. Va., on the Chesapeake & Ohio Ry.

CROZER

Genuine Pocahontas from McDowell County, W. Va., on the Norfolk & Western Railway.

LYNCO

High fusion coking coal for by-product, industrial stoker and pulverizer use from Wyoming Co., W. Va., on the Virginian Ry.

ANTHRACITE

Hazle Brook—*Premium Lehigh*
Raven Run—*Premium Mahanoy*

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BLUEFIELD, W. VA. BUFFALO CHARLOTTE, N. C. CINCINNATI
NEW YORK NORFOLK PITTSBURGH

ant treasurer of the Seneca, S. C., division, has been promoted to assistant treasurer and general manager of all plants. . . . In operation since 1848, Utica & Mohawk Mills has plants in Utica, N. Y., and at Seneca, S .C. Another plant, to be known as the Utica-Mohawk divsion, is currently under construction at Mohawk, near Clemson, S. C.

W. J. Fullerton recently resigned as general styling and product development manager of Dan River Mills, Danville, Va. Mr. Fullerton, who had been associated with the firm for 22 years, had made his headquarters in New York City since 1941. A graduate of the Rhode Island School of Design, he was associated with Lorraine Mfg. Co. before joining Dan River.

T. A. Folger, secretary and vice-president of Norris Cotton Mill Co., Cateechee, S. C., and J. F. Underwood, superintendent of Pickens (S. C.) Mill, recently were named to the board of trustees of Cannon Memorial Hospital in Pickens.

Richard W. Murphy has been appointed deputy assistant administrator for the textile, leather and specialty equipment bureau of the National Production Authority. . . . Hyman H. Bookbinder has been named assistant to the bureau's assistant administrator. . . . Mr. Murphy is on leave as manager of the national accounts department of the National Cash Register Co. and has been with N.P.A. since January, 1951. Mr. Bookbinder, with N.P.A. since March, 1951, formerly was with Amalgamated Clothing Workers of America (C.I.O.) and served as special assistant to the director of manpower for the N.S.R.B.

OBITUARIES

Harold Brown, 92, formerly secretary and treasurer of Alexander Smith & Sons Carpet Co., with which he started as an office boy in 1877 in its Yonkers, N. Y., plant, died June 2. Mr. Brown retired many years ago. A daughter survives.

George W. Fraker, 76, retired vice-president of National City Bank, New York, and well known in the textile industry, died May 29 at his home in Plainfield, N. J. In 1904 at Spray, N. C., Mr. Fraker started the development of what culminated in Carolina Cotton & Woolen Mills Co., which was later acquired by Marshall Field & Co. He became its president and general manager and during his 12 years there also built 12 mills in four towns and established the town of Fieldale, Va., in 1917. He was a director of American Enka Corp. and Cannon Mills Co. He joined National City Bank in 1919 and retired in 1943. Surviving are wto sons and two daughters.

Martin Reed Porter, 64, associated with Iselin-Jefferson Co., Inc., New York, and chairman of the board of New Braunfels (Tex.) Textile Mills, died May 28 at his home in West New Brighton, Staten Island, N. Y. He had spent over 40 years

Harry S. Pos, 66, chief purchasing agent for American Enka Corp., Enka, N. C., died May 20 at a hospital in Asheville, N. C. Surviving are his wife, a daughter and a son.

Ernest Rees, president of Elk Cotton Mills at Fayetteville, Tenn., died May 25 after a short illness. Mr. Rees was a director of the American Cotton Manufacturers Institute and of the Carded Yarn Association and a member of the textile industry's mobilization committee. He also was a delegate to and a member of the board of directors of the National Cotton Council. Surviving are his wife, two sons and a daughter.

Hiram Rivitz, 68, president of Industrial Rayon Corp. from 1927 to Jan. 1, 1950, and chairman of the board since then, died June 4 at a hospital in Cleveland, Ohio. Mr. Rivitz became associated with Industrial Rayon Corp. in March, 1926, and was named vice-chairman and general manager. He is survived by a daughter and two gradnchildren.

Frank W. Reynolds, 83, a former president of Lockwood Greene Engineers, Inc., industrial engineering firm which has designed and constructed many textile plants over the country, died recently. Interment was made in Winchester, Mass. Survivors are a son, a daughter and a brother.

Horace A. Yount, 90, retired textile manufacturer of Statesville, N. C., died June 6. Mr. Yount organized the old Bloomfield Cotton Mill and operated it successfully for many years. Mr. Yount was twice married. His second wife and three children survive.

MILL NEWS

CONSTRUCTION. NEW EQUIPMENT. FINANCIAL REPORTS. CHARTERS. AWARDS. VILLAGE ACTIVITY. SALES AND PURCHASES

SAXON, S. C.—Plans have been prepared by Lockwood Greene Engineers, Inc., Spartanburg, S. C., for construction of a warehouse for Chesnee Mills. Cost of the proposed facility was not stated.

COOSA PINES, ALA.—Beaunit Mills, Inc., a subsidiary of North American Rayon Corp., reports that its projected tire yarn plant here is expected to be in operation by next Spring and in full production by the Fall of 1952. The company has revised upwards to 36 million pounds annually from 27 million pounds the planned capacity of the unit.

ARCADIA, S. C.—Employees of Mayfair Mills recently have purchased 261 houses formerly owned by the company. Prices ranged from about $1,350 to $3,800 per unit. The company retained about 25 houses for supervisory personnel.

SPARTANBURG, S. C.—Re-gearing of the Beaumont Mills Division plant of Spartan Mills to defense production has resulted in a machinery installation and replacement program totaling several hundred thousand dollars. Additional equipment has meant adding 150 employees. The re-gearing program, virtually completed, included: Installation of 57 new 54-inch Draper X-2 looms. Addition of 97 F-model looms for production of duck cloth. Installation of 126 modified D-model looms, 60 and 84-inch widths, underway. Twelve new filling twisters. A modern new system of humidity control and refrigerated air change for carding and spinning rooms is expected to be completed by late Summer.

ELLENBORO, N. C. — Ellenboro Mills, Inc., has been chartered by the Secretary of State to manuafcture cloth and all kinds of textile products. The firm reported authorized capital stock of 12,000 shares, no par value. Incorporators are C. A. Cochran, F. A. McCleneghan and F. T. Miller, Jr., all attorneys of Charlotte, N. C.

MCMINNVILLE, TENN. — McMinnville Textiles, Inc., has been incorporated with a capital stock of $250,000 to operate a new plant here. Construction of the plant's spinning unit is proceeding rapidly, it is reported.

LENOIR, N. C.—B. & R. Textile Corp., with authorized capitalization of $100,000, has been chartered to manufacture cloth and all kinds of textile products. Incorporators are C. A. Cochran, F. A. McCleneghan and F. T. Miller, Jr., all of Charlotte, N. C., who recently organized Ellenboro (N. C.) Mills, Inc.

LURAY, VA.—A 7,500 square foot addition to the plant of Luray Textile Corp. was completed recently. Luray Textile Corp. is a subsidiary of Schwartzenbach Huber Co., which has made known plans for further expansion in the future.

SUMTER, S. C.—Construction is progressing satisfactorily on a new plant here for Santee Print Works, a $465,000 project which will triple the capacity of the firm. The new plant is expected to be completed and in operation by December. It will contain 85 per cent new machinery, including six cloth printing machines, and will have a 30,000-gallon propane gas tank.

GREENSBORO, N. C.—A spokesman for Cone Mills Corp. May 30 stated that the firm has "no immediate plans" for organizing its own truck fleet to counteract rate changes by independent haulers.

CHARLOTTE, N. C.—Representatives of Lustre Fibers, Inc., a subsidiary of Courtaulds, Ltd., British rayon producer, currently are conducting a survey of sites in the South to establish a plant for the production of spun-dyed viscose rayon staple fiber. One of the firm's requirements in its selection of a location, it is reported, is assuarance of a daily water supply of 100 million gallons.

EASLEY, S. C.—Controlling stock in Tumbletwist Mills, Inc., Grays Lake, Ill., the nation's largest producer of cotton carpetings, has been acquired by R. C. McCall, Sr., of Easley, and a group of associates. All production of the firm at Gray's Lake will be transferred to Easley. Mr. McCall, who will be president and treasurer of the firm, said Tumbletwist will have no connection with McCall Mfg. Co. of Easley and Greer, S. C., of which he also is president and treasurer.

MORGANTON, N. C.—Dixie Mills, Inc., was granted a state charter of incorporation May 22 to deal in textile fabrics. Authorized capital stock is $100,000, subscribed stock $300 by E. M. Brunson, Mrs. Harriet Brunson and R. M. Murphy, all of Morganton.

SALISBURY, N. C.—It is reported that Oscar Heineman Corp., Chicago yarn processors, is filing an application with the National Production Authority for authorization to construct a $250,000 plant at Salisbury. The proposed new plant would have about 20,000 square feet of manufacturing space and would employ about 175.

LYMAN, S. C.—Installation of equipment for the dyeing process of Vat-Craft Corp. is currently under way at the Lyman division of Pacific Mills and is scheduled to be completed about July 1. It is understood that exclusive experimental rights have been granted to Pacific until March 31, 1952, in connection with commercial development of the process.

DANVILLE, VA.—Dan River Mills, Inc., recently completed a $9,000,000 loan through a Boston corporation with four institutional investors. Purpose of the loan, which will carry an annual interest rate of 3¼ per cent, is to provide working capital during the inflationary period. It will be paid back $450,000 annually; the borrowing to be amortized by 1971.

RALEIGH, N. C.—The plant and equipment of Premier Worsted Mills here has been sold to Fyans & List Machinery Co., Inc., Fall River, Mass. It is reported that the new owners purchased the plant for re-sale. Revenue stamps affixed to the deed revealed a purchase price of $141,000 for the real estate; additional amounts were involved in the purchase of the machinery.

NEW BEDFORD, MASS.—Kilburn Mill is planning to build a mill in the South, it is reported. The need for lower costs is given as the reason. Currently, Kilburn Mill employs approximately 300 operatives here in the manufacture of thread. Employees are members of Textile Workers Union of America, C.I.O. In a letter to stockholders, George B. Knowles, president, says: "The management and directors of Kilburn Mill have recommended that the company establish a manufacturing unit in the South. They have become convinced that the differential in cost of operation makes it imperative to establish such a unit. It is believed that the company has adequate resources to finance such a unit. Pending the selection of a site and preparation of detailed estimates of the cost, which investigations are actively in progress, the directors ask your approval of this recommendation and authority to proceed with the establishment of such a unit, if, in their judgment, a final and detailed program can be worked out within the financial resources of the company."

"It won't work this time, Henderson. I recognize that suit as the same one you wore getting your last three raises."

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SPINNING and TWISTING
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For The Textile Industry's Use

EQUIPMENT — SUPPLIES — SERVICES — LITERATURE

New Edda Office

Edda International Corp. announce the opening of a new Southern sales and technical service office at the Calhoun Towers, Greenville, S. C., for the convenience of Southern mills using Titan warp tying machines and Texma reed grinding and brushing machines. The home offices of the corporation remain at 468 Fourth Avenue, New York, N. Y. Both these offices will be under the personal supervision of B. Gudjonsson and H. A. Nagel.

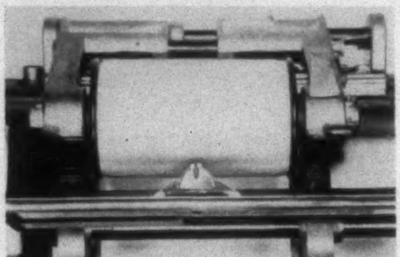
Improved Separator

New ATOMagnets, produced by Eriez Mfg. Co., Erie, Pa., are being installed in all its pneumatic line hump assemblies. Eriez magnetic humps are designed to remove tramp iron from materials conveyed in air lines, and are engineered to give maximum magnetic protection.

ATOMagnets are improved Eriez permanent magnetic separators incorporating several completely new features. Among these are fully riveted construction for increased rigidity; continuous hinge of non-magnetic aluminum for ease of cleaning and for longer service; formed aluminum cover to prevent accumulation of iron on backs of castings with consequent loss of magnetic strength.

The hump has a "dog-leg" design to take advantage of the difference in inertia between the magnetizable material and the material to be cleaned. Strategically placed baffles twice direct the material flow 30 degrees from the normal straight line so that two ATOMagnets on opposite faces of the unit set up a magnetic barrier in tandem; what one misses the other catches. This break in material flow gives the ATOMagnets an opportunity to remove all dangerous tramp iron, the firm states.

New Spooler Guide



A new traverse thread guide for U. S. Acme high-speed spooler is announced jointly by American Lava Corp., Chattanooga, Tenn., and U. S. Textile Machine Co., Scranton, Pa. The polished slot of this guide is 1/32nds of an inch wide. It assures accurate control at the end of the traverse, creates a uniform wind, results in a package of uniform weight. These guides are made of AlSiMag, a hard, long-wearing homogeneous material. Actual mill records have established their extra long life, efficiency and economy, it is claimed.

U. S. Textile Machine Co. carries these AlSiMag traverse thread guides in stock in AlSiMag 192 for immediate shipment. The same guides may be ordered from American Lava Corp. for shipment after normal production intervals. These guides can also be furnished by American Lava Corp. in AlSiMag 193 (same physical characteristics as 192 except that color is metallic gray and material is electrically conductive to assist in bleeding off static) or in AlSiMag 491 (super long wearing material, hardness of nine on Mohs' scale, light blue in color).

Test samples in AlSiMag 192 or 193 are offered by the manufacturer without charge. Request samples of design No. GE-24476 from American Lava Corp., Chattanooga, Tenn.

Safety Electrification

The Cleveland Tramrail Division of Cleveland Crane & Engineering Co., Wickliffe, Ohio, announces a new type of electrification for overhead cranes and tramrail systems especially designed to provide maximum safety. The development was planned and carried out in anticipation of a possible ruling in the near future by the National Electric Code, making it mandatory to have adequate protection of electrification on overhead materials handling equipment.

A result of several years of research and preparatory work, the new electrification has undergone extensive tests at the Cleveland Tramrail factory as well as various hard-service applications in a number of well-known manufacturing plants. In this manner, by thousands of hours of service and hundreds of miles of travel under actual operating conditions, it has been perfected and thoroughly proven, the company states.

The improvement, known as Cleveland Tramrail Saf-Powr-Bar, consists of inverted U-shaped conductor bars inside of which operate sliding current collector shoes. This electrification arrangement may be applied to all new Cleveland Tramrail systems, as well as replacement on open-bar electrification. It may also be installed on many hand-pro-

HIGH QUALITY COMBED and CARDED KNITTING and WEAVING YARNS

BEAMS, CONES TUBES, WARPS

1870 BFG B.F.Goodrich

MARTHA MILLS DIVISION, Silvertown, Georgia

LARGE PRODUCTION . . . UNIFORM QUALITY . . . LATEST MACHINERY

• SOUTHERN SALES AGENTS: Walter T. Forbes Co. PHONE L. D. 28, CHATTANOOGA, TENN.

pelled systems where motor-powered hoists, carriers, or cranes are now desirable.

Safety is the big feature of this development, as the Saf-Powr-Bar prevents accidental contact with an electrified conductor bar. Shocks and more serious injuries from contact with power bars are prevented because the bar is enclosed with an insulating plastic covering. Sliding current collector shoes contact three sides of the bar and operate on a pantographic principle. A diagonal spring provides upward pressure on the graphitar shoe while a torsion spring within a plastic housing causes pressure to be applied on both sides of the conductor bar.

An enormous increase in the service life of a Saf-Powr-Bar with a sliding shoe as compared to an open bar with collector wheels, makes the former most attractive. Actual tests on installations in the field have confirmed the results of research tests which indicated the life of a graphite collector shoe in a Saf-Powr-Bar to be upwards of 2,000 miles as compared with 400 miles maximum for a collector wheel assembly. The slider shoe is made of special graphite which possesses lubricating properties, giving it long life and minimizing wear on the bar.

New Fast-Color Bases

Spectrolenes, a versatile new series of stable fast-color bases making possible rapid mixture with combinations of naphthols for a "vast" number of brilliant shades have been developed and were introduced June 1 by Hilton-Davis Chemical Co., Cincinnati, Ohio, a division of Sterling Drug, Inc.

Five fast-color bases, thoroughly plant-tested including actual mill runs, are now available in solution form, and others are in process of development, vice-president in charge of sales, N. S. Knaggs disclosed. He said that it took two years of laboratory research to perfect the Spectrolenes, described as the "newest and the most practical way of supplying colors yet devised." While the colors have already proven effective for textile dyeing and printing, diversified applications are yet to be fully explored, he explained. Wherever naphthols and fast-color bases or salts are employed, such as in printing of cottons and rayons, Spectrolenes are expected to be brought under study.

Spectrolenes are Hiltonil fast-color bases completely diazotized and stabilized to prohibit coupling with naphthols in solution or with naphtholated material, until the stabilizer is broken down. The base is released from the stabilizer by the action of acid acidified steam, such as acid ager. This permits complete coupling of the naphthol with the fast-color base. Loss of color value due to prolonged storage has been cut to a minimum, Mr. Knaggs revealed. The Spectrolenes are mixed fresh with the naphthols in the plant where they are actually applied. Consequent freshness of the combination makes possible additional brilliance and color value, he said.

Presently available Spectrolenes are: Red KB, Red RC, Scarlet 2G, Orange HD, and Blue B. The total number of naphthols produced and distributed by Hilton-Davis now numbers 16. Combinations of these with each fast-color base present today an

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WEAVE-WELL
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SHUTTLE
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TALLOW
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FINISH-RITE
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ACTUALLY you need,—expressed briefly,—just two solutions to your sizing requirements: (A) the proper size and formula for its use in your mill and (B) our experience of 50 years' continuous application in the solving of innumerable sizing problems.

A North Man will be glad to work with your organization in determining just what is required. Our chemists will supply just what is needed.

Yes, you can depend on the Frank G. North team for the last word in better warp dressing. It's been proving its trustworthiness and dependability to profit-wise mill management for half a century.

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Among the nation's largest manufacturers of dressings for all warp yarns.

Northol P. C. for use with any make of machine,
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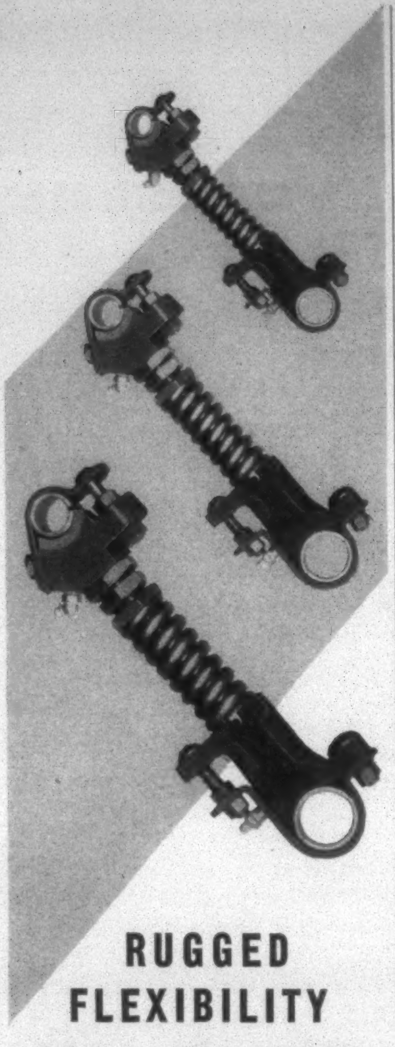

RUGGED FLEXIBILITY BUILT INTO EVERY BTM SPRING-TYPE CRANK ARM

For fewer loom stops, for higher speeds, and for smoother operation at any speed, install sturdy BTM Spring-Type Crank Arms. Made of finest tempered steel and iron, these more dependable crank arms are reinforced at all points of strain. They were designed for *rugged flexibility*, and long, trouble-free service. They are shipped complete with grease fittings and hardened steel crank pin. Order today from:

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extremely broad range of color possibilities, limited only by the utility of certain shades, it was explained.

Spectrolenes are supplied in drums of 450 pounds. Accelerating production of the new bases, Hilton-Davis will continue to serve industry with its full line of naphthols and fast-color bases and salts, Mr. Knaggs pointed out. Technical information and demonstrations of the applicability of Spectrolenes are available, he said, from the Blackman-Uhler Co., Inc., Spartanburg, S. C.; Claflin-Dorman Co., Boston, Mass.; The Canadye Corp., Hamilton, Ont., representatives of the company in the South, New England, and Canada, or from Hilton-Davis itself.

120th Anniversary

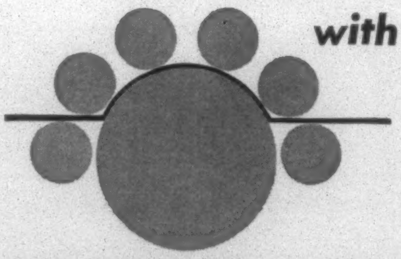
The Philadelphia Quartz Co. is celebrating 120 years of continuous business. It was July 21, 1831 when Joseph Elkinton first opened the doors of his soap and candle enterprise in Philadelphia. The business grew, so that by the time the founder's sons, Joseph S. and Thomas finished their schooling, they took an active interest in the enterprise.

Thomas Elkinton's leaning toward technology directed his attention to a chemical, silicate of soda, mentioned in a scientific journal. Thus, it was early in 1858 that equipment was bought to experiment with the product. The use of silicate of soda in the Elkinton soaps showed a distinct advantage for increasing washing action. Silicate sales to other soap makers were inconspicuous until the war between the states brought an embargo on Southern resin to the North. Soap makers became interested to substitute silicate for resin. The new soaps found favor with consumers, and so silicate of soda became an established product. Soaps and candles still were manufactured in the Elkinton factory although with the introduction of the kerosene lamp, candle sales were waning.

The increased acceptance of silicate as a soap-making ingredient soon required greater production. In 1864 a large factory was built at 9th & Mifflin Streets, Philadelphia, and the present firm name came into use. Again in 1889, business growth justified expansion to the West, with a silicate factory in Anderson, Ind. At the beginning of the present century, the acceptance of the corrugated paper box as a shipping container, resulted in utilizing another of silicate's properties, adhesiveness, which had been discovered earlier. A new plant opened in Chester, Pa., was devoted exclusively to manufacturing silicates of soda. At that time, the Philadelphia factory was closed and soap making discontinued.

Through the company's research over a long period of years, series of chemicals were produced by varying the proportions of the ingredients of silicate of soda which led to a variety of useful applications. From the original use of the product in soaps, the list of industries now using silicate of soda is long.

Besides the Anderson and Chester units, plants today are located at Baltimore, Md., Buffalo, N. Y., Jeffersonville, Ind., Kansas City, Kans., Rahway, N. J., St. Louis, Mo.,



The photograph shows Strip-O-Matic following a 9 months' operation. There isn't any accumulation of stock.

Booth *Originators of* STRIP-O-MATIC *

CARD CLOTHING NEWS AND VIEWS

Nylon Spinner Enjoys Runs to 9 Months with STRIP-O-MATIC*

The Wister Spinning Company, manufacturers of fine nylon yarns, had to strip every 2 to 3 weeks with conventional clothing on an 8-hour shift; with 2-shift operation weekly or oftener. Since they have clothed complete sets including cylinders and workers with Strip-O-Matic, they have increased the time between stripping to as much as 9 months. The carders now anticipate being able to run almost indefinitely without stripping. The only down time experienced is for grinding (about every 9 months, only half as frequently as with conventional wire). There is considerably less fibre breaking, and practically no stock loss with Strip-O-Matic.

Research and development is continuously improving Strip-O-Matic for carding all types of fibre including wools, blends, and synthetics. If you have tried only the first Strip-O-Matic manufactured you owe it to yourself to try today's new and greatly improved type. A Benjamin Booth representative will be glad to discuss your specific requirements without cost or obligation.

President

* Patented ®

BENJAMIN BOOTH COMPANY, ALLEGHENY & JANNEY STS., PHILA., PA. **Booth**

Utica, Ill. A subsidiary, Philadelphia Quartz Co. of California operates three plants—Berkeley and Los Angeles, Calif., and Tacoma, Wash. Another subsidiary is National Silicates, Ltd., Toronto, Ont., Canada. Thomas W. Elkinton, great grandson of the founder is president of the Eastern and Canadian companies, and a director of the California company. The present directors of Philadelphia Quartz Co. are J. P. Elkinton, J. G. Vail, T. W. Elkinton, W. Martin, J. A. Norton, C. L. Baker, A. W. Elkinton, E. A. Russell and J. C. Russell.

Hunter Expands Service

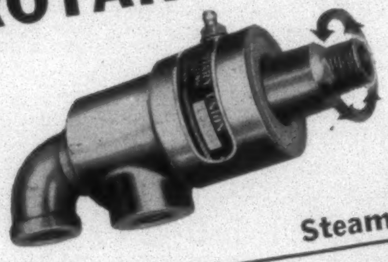
James Hunter Machine Co., North Adams, Mass., announces expansion of its service facilities with the opening of a new repair station at 114 McKoy Street, Greenville, S. C. These new facilities will be devoted exclusively to service in the Southern territory for the Leyland-Mycock machinery division of James Hunter Machine Co., manufacturer of rubber, neophrene and metal clutch expanders for cotton, wool and synthetic fabrics. Leyland-Mycock expanders are used with singeing machines, water mangles, starch machines, dry cans, calenders, tommy dodds, mercerizers, dye padders, soapers, washers, tenter frames, winders, carbonizers, etc. Services will include complete repair and maintenance, plus stocks of parts, such as rolls, bearings, frames, etc. Leyland-Mycock expander users will now realize freight savings and have unusually prompt, local service in the Southern area. The new repair station will be under the direction of Ralph C. Wing.

Paint Company Expanding

Plans for the expansion of both the laboratory and plant facilities of the Barrelled Sunlight Paint Co., Providence, R. I., were announced June 3 by Wilbur L. Rice, president. The program calls for the erection of a fifth floor directly above the present laboratory, and the construction of a five-story plant addition at the corner of Blackstone and Culver Streets.

The new plant will add 12,500 square feet of production space, and the 3,500 square foot addition to the laboratory will double the present laboratory facilities. Together, they are nearly equal in area to the size of the plant in which the company—organized in 1886—started to operate at its present location in 1904.

Work has been started on the laboratory



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Pipe Size
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A Revolving Steam Connection

They last longer

ROTARY UNIONS give extremely long, trouble-free service because their construction takes the strain off of the parts which ordinarily wear out.

Oversize precision ball bearings provide extra smooth operation. Flexible metal hose connections allow ROTARY UNIONS to float, thereby relieving strain on the sealing surfaces. Accurate machining, assembling, and thorough pretesting guarantees that each unit will give a maximum in service.

Save money by installing ROTARY UNIONS on your slashers, dry cans, calenders, printing and coating machines. Write for Catalog 600-B for full details.

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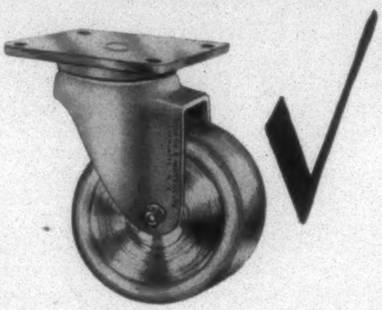

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Compare WIL-MAT Casters' spinning qualities with those of any other caster on the market. Twin heavy steel ball bearings, in thrust type hardened natural raceways, and accurately machined parts will keep WIL-MATs spinning freely long after other casters have stopped. This means that WIL-MAT equipped trucks, etc., roll with far less resistance—far less wear on your floors—and far less effort by personnel.

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addition, and application for federal permission to erect the plant addition has been filed. Management does not expect the expansion will mean additional employment. It will provide space for the filling and tinting operations involved in the manufacture of color paints. The laboratory addition will house the testing and control equipment now located in a part of the building that will have to be vacated to permit the start of the plant addition.

Doorless Phone Booth

A time-saving, noise-abating device to aid textile mill management and operation is a modern development of Burgess-Manning research engineers. This product of industrial research, now available, is a doorless phone booth that screens out high-level noise. It can be set atop a desk or table or attached to the wall in noisy areas where key employees must work whether it be amidst the din of machinery or in the bustle of the office. The phone booths are designed to insure both privacy and quiet for the user, making it easier and safer to give or receive phone orders where noise is distracting. The product is marketed by the architectural products division of Burgess-Manning Co., 5970 Northwest Highway, Chicago, Ill.

These booths, which may be used in the factory or in noisy offices, are known as Acousti-Booths and are lined with sound absorbing material that traps high and low frequency noises and creates a hushed interior where phone conversations may be made without interference. The foreman, weaver or other employee who must make business calls from the shop usually has to fight the multitude of machinery noises and has difficulty hearing and making himself heard over the phone, resulting in lost time and enhancing the chance of misunderstanding and being misunderstood and thereby inviting costly errors.

Acousti-Booths are of two types. The full-length one resembles a conventional phone booth, but is doorless, and therefore more comfortable and sanitary. The Scout Model, ideal for use in offices is a waist-high affair that shields the head and shoulders of the user and may be attached to a wall or placed on a desk. Both types have wide roomy shelves for writing.

Analyze Business Failures

"Survival Qualities of American Business," a 16-page comprehensive study made by Dun & Bradstreet, Inc., traces the expansion of business throughout the country by analyzing commercial and industrial failure trends. The study reveals that failures in the textile and apparel industry for an 11-year period from 1940 to 1950 were, in chronological order: 611, 437, 290, 85, 30, 19, 27, 108, 169, 346 and 420.

In a section titled, "Why Do Some Businesses Succeed and Others Fail?" the study brings out the fact that business failures are human failures—failures in judgment, personality, decision, ability and know-how. An analysis of the 9,162 failures which occurred in 1950 shows that 96 per cent of them were directly traceable to the individual who owned the business.

Business expansion and rate of failure during the past decade are compared separately in nine geographical regions of the U. S. While the Middle Atlantic states during 1950 accounted for 31.9 per cent of all the failures reported in the country, this was a substantial decline from the 43.5 per cent of 1940. The greatest failure upswing has occurred on the Pacific Coast. In 1940, only 9.7 per cent of all failures were reported in that region, but in 1950 almost one out of every four failures in the U. S. was taking place on the West Coast.

Two out of every three concerns that failed in 1950 had been in business for five years or less. In a section called "The First Five Years Are The Hardest," the study shows the year in which the concerns that failed during 1950 started in business. Failure trends by 44 lines of industry and trade are also covered from 1940 through 1950.

Houghton Belting Booklet

An informative 16-page booklet on belting, which includes practical maintenance suggestions and engineering data, has been released by E. F. Houghton & Co., exclusive makers of treaded leather belting for power transmission. This well-illustrated booklet contains information on making belts endless on pulleys, types of motor bases, fasteners, lacings, cement, preservatives and repairing belts. Several helpful belt formulae are included in the engineer-

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Brings you modern technological methods and techniques for handling rayon on machinery originally designed to handle natural fibers, as well as on newly developed equipment. It shows mill men in all divisions of the textile industry the most effective methods for processing rayon into yarn, greige goods, and finishing fabrics. Designed as a practical guide by outstanding technicians in the field, this book emphasizes the every-day applications of the methods described, stressing the HOW of rayon handling.

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TEXTILE BULLETIN
Charlotte, N. C.

ing data section, along with a table on horsepower rating of shafting of various diameters at various speeds. Houghton's patented tread feature and the special mineral tannage used in the manufacture of Vim Tred belts are graphically described with photographs and diagrams. Other types of Houghton belting are also described and illustrations of specific applications are given. For a free copy of this useful booklet, titled, *Hougton's Treaded Leather Belting*, write to E. F. Houghton & Co., 303 W. Lehigh Ave., Philadelphia 33, Pa.

Westinghouse Booklet

Increased demand for better industrial lighting is reflected by a new 16-page lighting-at-work booklet available from the Westinghouse Electric Corp. Aimed at the industrial plant operator, this booklet stresses three ways that better lighting can work for him: (1) it can cut cost by making possible increased production; (2) increase efficiency by ensuring accuracy; (3) reduce accidents by clearly exposing dangerous operations.

In emphasizing that different operations in a plant call for varying amounts and types of light, this booklet analyzes the three modern light sources (fluorescent—mercury vapor—incandescent) as to type of light, efficiency, lamp life, maintenance, mounting height, and job suitability. Illustrations of various luminaires of each type of lighting are presented along with wattage and lumen output ratings.

Special lighting for special areas is illustrated, such as dust and vapor-tight units for service in corrosive atmospheres, and bin and stack luminaires that direct light into bins and stock rooms. For a copy of booklet B-4727, write to the Westinghouse Electric Corp., Box 2099, Pittsburgh 30, Pa.

Rohm & Haas Booklet

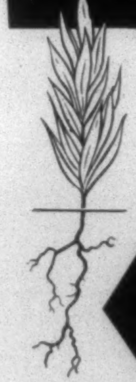
An authoritative 48-page booklet covering the nature, grades, properties and applications of Triton and Hyamine surface-active agents has been prepared by Rohm & Haas Co. Data included will be found useful to chemists and technologists in textile processing and dyeing. The illustrated booklet includes a useful section on the preparation of emulsions. Ten tables record data on surface and interfacial tension values, wetting time, spreading coefficients, foaming volumes, stability and other properties. Also included is an unbound 8½ by 11-inch summary, printed on card stock for ready reference in plant or laboratory, which tabulates, for each of 12 compounds, the chemical structure, recommended solvent, ionic activity, conditions of use and suggested uses. The booklet is available without charge on request to the manufacturer at Washington Square, Philadelphia 5, Pa.

New Sylvania Booklet

A new book which will enable decorators, designers, architects, engineers, industrialists, merchandisers and the average home-maker to predict how a color will look under any one of the eight colors of white light now available, was announced recently by Sylvania Electric Products, Inc. Entitled

GET THOSE WEED ROOTS!

GO TO THE ROOT OF YOUR WEED PROBLEM WITH THESE DOLGE PRODUCTS



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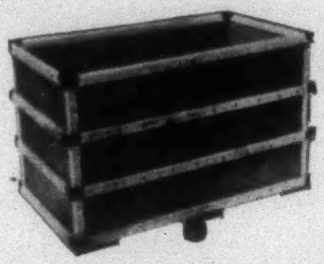

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Compare its specifications with those of any other fibre truck.

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FOR THE TEXTILE INDUSTRY'S USE—

Color Is How You Light It, the new book, according to Winonah Murphy, the company's color expert under whose supervision the work was done, is an improved and expanded version of the original introduced by the company two years ago, for which there have been over 30,000 requests.

The book, which has a heavy lacquered cover and is designed to fit an 8½ by 11-inch file, utilizes 40 large color swatches in the color analysis section and includes material on light and color, color definitions, color applications, the correlation of source and surrounding color, color psychology, color in industry, merchandising and the home.

Copies of the new *Color Is How You Light It* book, number FL-420, may be secured from the advertising department of Sylvania Electric Products, Inc., 87 Union Street, Salem, Mass., at 50 cents a copy.

Serving The Textile Industry

New Wilson Loom Assembly Plant

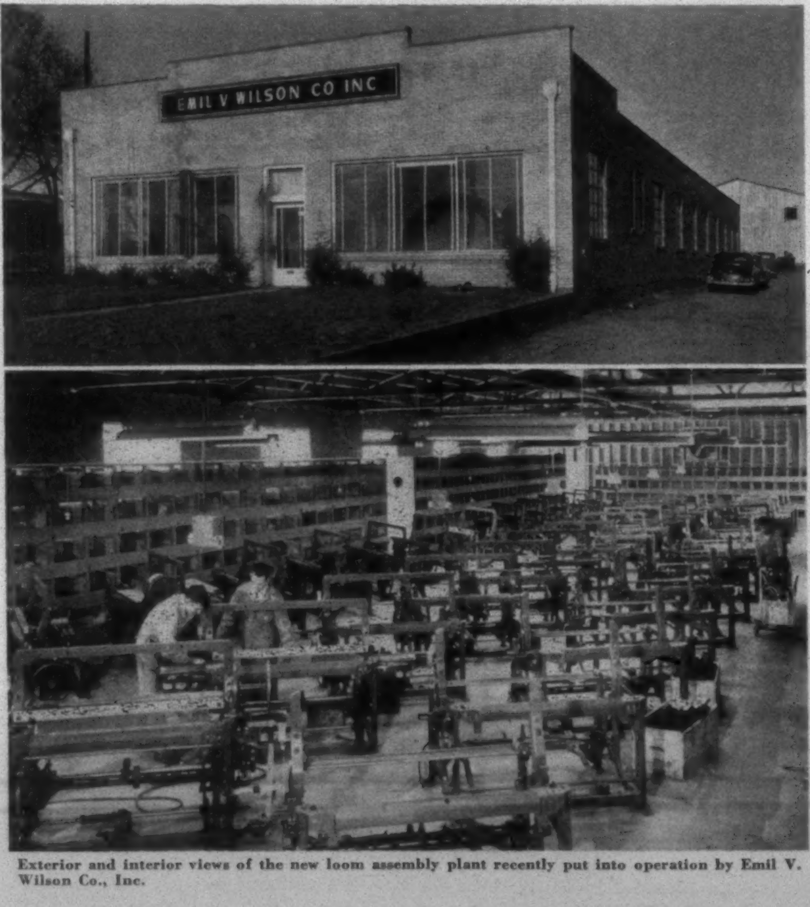
A NEW OPERATION OF INTEREST TO WEAVING MILLS throughout the country is the new Emil V. Wilson loom assembly plant at 1210 New Buncombe Road in Greenville, S. C., the only operation of its kind in the textile machinery field. Opened Feb. 15, the Wilson plant can completely re-work, modernize, assemble, and ship 60 looms each week, guaranteed by Owner Emil V. Wilson *(left)* and Plant Manager B. M. Cooper to be the equivalent of new looms in every respect except cost.

Started by Messrs. Wilson and Cooper, long-time associates in the field of loom modernization, to meet the industry's need for a loom rebuilding factory, the operation is housed in a new steel and concrete building containing 10,000 square feet of floor space, oil heat, 20-foot ceiling, full fluorescent lighting throughout, with ramp at rear for truck loading and unloading, and storage area for old looms. Two-way motor switches are suspended from steel ceiling beams for operating 12 looms at a time. 1,500 loom parts bins line the four walls of the assembly room, already filled with parts necessary to the plant's operation. Forty-five looms are in place on the floor at a time, leaving ample aisle space the length and width of the floor for parts trucking; and plently of work area around each loom for Wilson's crews of trained loom mechanics.

Features of this new plant include the use of gauges on every loom (1) to determine correct center distance between camshaft and crankshaft, and (2) to determine correct distance from crankshaft to horn on loom sides, making certain that the two shafts are parallel to each other and true in relationship to the loom sides. Unique in loom rebuilding and assembly is the use of a special jig, constructed by Mr. Cooper to line and assemble lays. Purpose of this jig, according to Mr. Cooper, is to do a more accurate job of lay assembly, with easier access to the lay and to the necessary of more than 300 Model E looms.

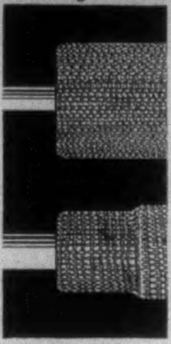
Emil V. Wilson, head of the new loom tools for working than is possible when the lay is in the loom. Steps accomplished with the use of the jig are: (a) line back box with reed; (b) mount protector rods on swords; (c) assemble binders, front box plates, picker stick guides, and check straps on lay before lay is centered and fastened in position in the loom.

The Emil V. Wilson loom assembly plant works largely in rebuilding Draper Model E Looms, in widths of 22 to 60 inches. In process at the present is the modernization assembly plant, states that the Greenville operation will not conflict in any way with the company's established business of modernization and rebuilding directly in the mills' own plants, but will be a new source of supply for mills which want additional looms. The company will build looms on order to mills' own specifications. Mr. Wilson has wide contacts with weaving mills throughout the United States, and has visited textile plants in many foreign countries in connection with loom sales, installation, and performance. He and Mr. Cooper, the plant manager, have been associated together in their present connections and previously for the past ten years. Mr. Cooper is recognized as an authority on loom operation, maintenance, and rebuilding, with 26 years' experience in such work. Wilson crews of loom rebuilding specialists are presently engaged in modernization jobs in mills in the South, the Middle Atlantic, and in New England.



Exterior and interior views of the new loom assembly plant recently put into operation by Emil V. Wilson Co., Inc.

New Seamless Knit Covers For Card Scavenger Rolls
(Patent No. 2,202,813)



Try these new covers on your back or front card rolls. They last three times longer and are ten times easier to strip than ordinary paper or cloth covers. Card hands love them . . . . and they are economical too!
Convince yourself. Send one old scavenger roll to be covered. It will be covered and returned to you at no charge so you can see that we have something. You be the judge.
This is not a slip-on cover . . . . can be had only by sending in old rolls for covering or orders for new ones to your specifications. We prepay charges one way on old rolls. Also made to your order: Knit Dye Tubing any size . . . . and sheepskin or cloth clearers. Give us a trial.

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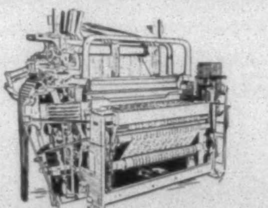

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Lydon Inaugurated As Lowell President

A broader education for textile students with emphasis upon human relations was urged June 2 by Kenneth R. Fox, former president of Lowell (Mass.) Textile Institute and now a vice-president and technical director of Burlington Mills. Speaking at the inauguration of his successor, Martin J. Lydon, Mr. Fox stressed "specialization must be supported by a broad foundation; one which includes those subjects which help to develop us as well-rounded individuals." In addition to his speech, Mr. Fox also was presented the alumni award made each year by the Lowell Alumni Association to the graduate considered to be most outstanding. He was awarded an honorary degree as Master of Science at the commencement exercises on June 4.

Specialized textile training is no longer adequate to cope with the problems of the current industrial scene, he said. A recent study of the reasons why top management men fail revealed that personality factors accounted for 85 to 90 per cent of the failures. Only ten to 15 per cent of the failures resulted from lack of skill or technical know-how. Mr. Fox pointed out that many textile schools, including Lowell, recognize the need for this broad basic training and have modified their course content accordingly. An adequate training for industry, he stated, must include not only those subjects identified directly with industry but also include subjects in the fields of art, basic science, basic engineering, social sciences and business administration.

The textile executive reviewed the history of Lowell Textile Institute from its early days in Boston over 75 years ago. "Industry is proud of the Lowell Textile Institute," he asserted. "It is proud not only for its past accomplishments but also for its future promise."

The board of trustees of Lowell Textile Institute on May 15 announced establishment of the Lowell Textile Institute Research Foundation for the purpose of encouraging and administering research sponsored by industry and government at the institute. "The foundation personnel and the institute faculty will jointly constitute a staff available for investigating problems involving chemistry, physics, biology, engineering and industrial economics in the fields of textiles, paper, leather, and related areas of interest," it was stated by President Martin J. Lydon and Chairman of the Board of Trustees Harold W. Leitch. Mr. Leitch is general superintendent in charge of research for Pacific Mills.

The foundation will also have the benefit of utilizing the unique and diverse equipment and physical facilities of the

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institute for its research and experimentation projects, it was stated. An 18-man board of directors, of which Mr. Lydon and Mr. Leitch will be ex-officio members, has been appointed to manage the functioning of the foundation. The board has chosen from among its membership the following officers: president, Roland E. Derby, Sr., owner and chairman of the board of the Derby Co., textile research chemists, and treasurer of the Textile Aniline and Chemical Co.; vice-president, Barnett D. Gordon, president of the M. K. M. Hosiery Mills and prominently identified with many industrial and civic organizations; treasurer, Homer W. Bourgeois, president of the Union National Bank of Lowell (he also holds directorships in several Lowell corporations); secretary, Charles J. Scully, a graduate of Villanova College and presently a professor of economics at Boston College graduate school.

T.R.I. Announces Research Fellowships

Textile Research Institute, Princeton, N. J., announces the appointment of the following individuals to Research Fellowships for the forthcoming academic year: David Marshall Cates, Greensboro, N. C., B.S. North Carolina State College, 1949, M.S. North Carolina State College, 1951; Paul Charles Colodny, Northampton, Mass., B.S. University of Massachusetts, 1951; Richard Leslie Golden, Baltimore, Md., B.E. Johns Hopkins University, 1951; Solomon Phillip Hersh, Winston-Salem, N. C., B.S. North Carolina State College, 1949, M.S., Institute of Textile Technology, 1951; Ludwig Rebenfeld, Jackson Heights, N. Y., B.S. Lowell Textile Institute, 1951; Henry Kyi-oen Woo, Shanghai, China, B.S., St. John's University, Shanghai, China, M.S. Lowell Textile Institute, 1948, textile chemistry, M.S. Lowell Textile Institute, 1951, textile engineering.

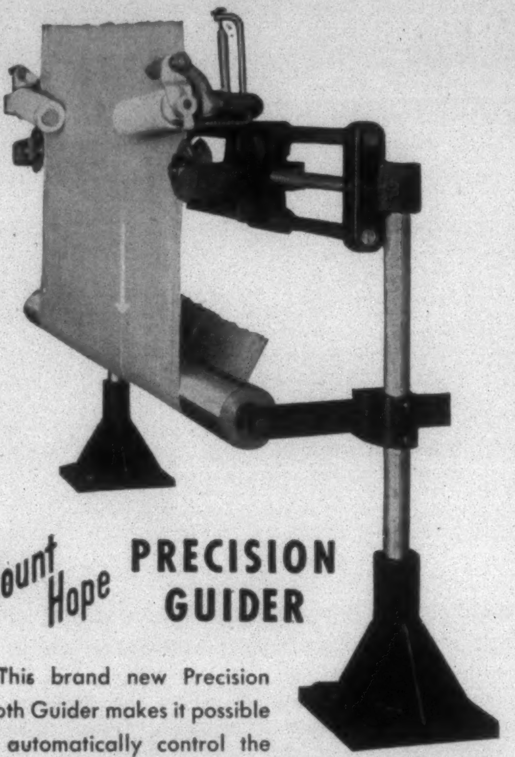
Mr. Cates, Mr. Colodny, Mr. Hersh and Mr. Rebenfeld will undertake studies in the department of chemistry, Princeton University. Mr. Golden and Mr. Woo will undertake studies in the department of chemical engineering. Mr. Woo will fill the Goodyear Fellowship, established Dec. 15, 1950, by the Goodyear Tire & Rubber Co. for the purposes of studying two-dimensional stress strain properties of airship type fabrics.

Appointment of the above men brings the number of Research Fellows at T.R.I. to 16, which is the maximum number contemplated under present operational plans. Dr. John H. Dillon, director of the institute, pointed out, however, that all recent graduates have had many opportunities for employment as research scientists in the industry and that many years would probably elapse before the supply of men trained at the graduate level in textile research would begin to equal the needs of the textile industry. He stated further that this increasing demand for research scientists reflects a definite tendency on the part of the textile industry to employ research methods as well as art and invention for solving its problems.

Textile Workshop Slated July 23-Aug. 31

The Lowell Textile Institute Research Foundation announced June 11, in response to the request of industry, the first annual Textile Workshop at Lowell, Mass. The purpose of the Textile Workshop was dictated by the demands of industrial research personnel for an opportunity to

UP
DOWN
ACROSS
OR ANY ANGLE



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exploit the complete, diverse and modernized facilities of Lowell Textile Institute for a technical course of study of the manufacturing, processing, and merchandising techniques of modern textile operations. The program of the workshop will be conducted over a six-week period from July 23 to Aug. 31.

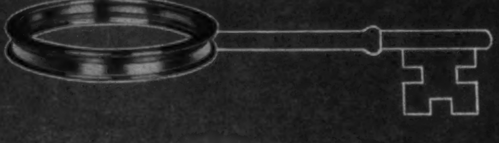
The executive committee of the foundation, consisting of Dr. Walter J. Hamburger, chairman of the committee and director of Fabric Research Laboratories; Roland E. Derby, Sr., president of the foundation and chairman of the board of the Derby Co., textile research chemists; Harold W. Leitch, chairman of the board of trustees of Lowell Textile Institute and general superintendent in charge of research at Pacific Mills; Martin J. Lydon, president of Lowell Textile Institute; and John H. Skinkle, professor of chemistry at Lowell Textile Institute, functions as the advisory panel for the organization and operation of the Textile Workshop.

The program of the Textile Workshop will be directed toward a comprehensive survey of the textile industry beginning with an orientation to the problems of fiber origin and classification, movement in world trade, and the specific properties which direct them into particular end-uses. This brief survey will then be followed by fiber manipulation studies by means of demonstrations and operation of the various fiber systems, including cotton, worsted, woolen, and synthetics, augmented by informal lectures at the machinery. Yarn manufacture, warp preparation, design and weaving will follow. Dyeing and finishing will be considered in detail, again with a large portion devoted to work around and at the equipment. The final week of the Textile Workshop will be spent with the consideration of textile evaluation, including testing and end-use requirements.

The morning sessions will be concerned exclusively with the practical considerations around the machinery in the institute proper. The afternoons will be free for recreation and private study, whereas the evening sessions, starting at 7:30 p. m., will be devoted to seminar-type discussions led by prominent textile scientists who will present lectures covering the theory of the practical areas studied during the morning period. The guest lecturers will also serve as moderators for active discussions among the workshop membership. There will be one mill trip a week. All literature relevant to the course of study will be provided with detailed drawings and flow sheets of all equipment, and the extensive library facilities of the institute will be made available. Thus the research foundation hopes to provide an environment presenting the proper admixture of the practical and theoretical considerations of the complex textile industry.

The workshop membership will be accommodated in the institute's modern dormitories and meals will be provided at the institute cafeteria. The Textile Workshop, as it is planned, will be limited to 20 participants this year so that groups of ten can be handled more efficaciously around the machinery. The cost of the workshop will be $600 per person for the six-week period with all of the above-mentioned provided. Families of the participants are encouraged to accompany the members during the course of study, and facilities will be made available.

All communications regarding the Textile Workshop should be sent to Prof. Ernest P. James.



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M.S., Ph.D. Degrees Awarded By I.T.T.

Ten Master of Science and three Doctor of Philosophy degrees were conferred by the Institute of Textile Technology, Charlottesville, Va., at commencement exercises June 12 on the institute grounds. Dr. Jack Compton, chairman of the executive committee of the institute, conferred the degrees. Students receiving the Master of Science degree in textile technology were Solomon P. Hersh, Barton L. Hinkle, Elvan E. Hutchison, Robert W. Lenz, Malcolm A. Sanborn, William C. Sheehan, Vernon C. Smith, James W. Sweeney, Wallace O. Wilson and Norman F. Young. Receiving the Doctor of Philosophy degree in textile technology were Laconla H. Hance, William H. Martin and Donald R. Roberts.

J. P. Holt, vice-president of Aberfoyle Mfg. Co., Philadelphia, Pa., one of the institute's member mills, was commencement speaker. Mr. Holt spoke on "Cotton Textiles Through the Years." After commencement exercises, a reception was held for students, guests, and the institute staff on the east lawn of the Applications Building.

Institute graduates will enter various phases of work in the textile industry, while some will continue work toward higher educational degrees. Messrs. Hance and Martin will join the research staff of the institute. Mr. Roberts will be employed by Chicopee Mfg. Co., Chicopee Falls, Mass., as will Mr. Lenz, while Mr. Hutchison will join Aberfoyle Mfg. Co. Mr. Sanborn goes to Bates Mfg. Co., Lewiston, Me., Mr. Sheehan to Bibb Mfg. Co., Macon, Ga., Mr. Smith to Deering, Milliken Co., Abbeville, S. C., Mr. Sweeney to R. T. Vanderbilt & Co., South Norwalk, Mass. Mr. Hinkle has been awarded a fellowship at the Georgia Institute of Technology to continue study toward the Ph.D. degree in chemical engineering. Mr. Hersh has received an appointment as Graduate Fellow at Princeton University where he will work on his doctorate and do research at the Textile Research Institute. Mr. Young will enter the U. S. Navy as a Lieutenant, J. G.

Toyo Rayon Co., Ltd., of Tokyo, has been licensed to manufacture nylon in Japan under patents of E. I. du Pont de Nemours & Co. The agreement with the Toyo firm, which was represented by Shigeki Tashiro, chairman of the board, has been approved by the Japanese government and the Supreme Commander of Allied Powers. Toyo Rayon, which is manufacturing nylon on a modest scale at present, has plans for extensive operations under the agreement.

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Two Schools Given Machinery By Bur-Mil

Additional contribution of machinery to the technical departments of two leading Carolina textile colleges—N. C. State College at Raleigh, and Clemson College, Clemson, S. C.—was announced recently by J. C. Cowan, Jr., president of Burlington Mills Corp. Now being prepared for shipment to each school is a 600-hook jacquard head machine which will permit classroom study of the manufacture and weave of highly decorative and fancy type fabrics. Both machines, just taken off the company's production line for donation to the schools, have been put in first-class condition. During the past month Burlington mills announced that it had contributed a hosiery knitting machine to each of the two colleges. The jacquard head machines are expected to be immediately put into use by the classroom officials. Mr. Cowan said Burlington Mills' machinery contributions are a part of the company's continuous interest in the development and progress of textile schools.

N. C. Vocational Textile School Exercises

Commencement exercises at the North Carolina Vocational Textile School, Belmont, were held June 6 with North Carolina's Gov. W. Kerr Scott as the principal speaker. Presentation of the diplomas was made by John S. Patterson, director of public relations for J. P. Stevens & Co., who spoke briefly. Mr. Patterson was introduced by John L. Morgan, Jr., superintendent of the Stevens' plant at Stanley, N. C.

Textile Quality Control Conference Slated

The textile committee of the American Society for Quality Control has announced plans for a textile quality control conference to be held at Clemson, S. C., Aug. 23-24. The conference will be of national interest and is expected to be attended by representatives from the cotton, wool and synthetic fiber industries. The program for the conference will be announced later. Those interested in the meeting and wishing additional information may write W. S. Smith, Research Division, West Point Mfg. Co., Shawmut, Ala.

World Rayon Output Up 29 Per Cent

Domestic shipments of rayon yarn and staple during May totaled 110,300,000 pounds, an increase of three per cent over the 106,900,000 pounds during April and eight per cent more than the 102,300,000 pounds shipped in May, 1950, according to *Rayon Organon,* statistical bulletin of the Textile Economics Bureau, Inc. Shipments in the first five months of 1951 amounted to 534,800,000 pounds, an increase of seven per cent over the 498,200,000 pounds delivered in the corresponding period of 1950.

The following data show domestic rayon shipments in the five-month period and the percentage change from shipments in the same months last year: viscose high tenacity yarn 131,300,000 pounds, an increase of seven per cent; viscose+cupra textile yarn 136,700,000 pounds, up eight per cent; acetate filament yarn 133,400,000 pounds, up four per cent; viscose staple plus tow 80,800,000 pounds, up seven per cent; acetate staple plus tow 52,600,000 pounds, up 17 per cent; and total staple plus tow 133,400,000 pounds, up 11 per cent.

Filament rayon yarn stocks held by producers at the end of May amounted to 10,800,000 pounds, a figure that showed practically no change from the 10,100,000 pounds held on April 30. Rayon staple stocks in producers' hands on May 31 totaled 4,600,000 pounds compared with 3,600,000 pounds on April 30.

The annual *Organon* study of world rayon production and capacity reveals that during 1950 global output of rayon filament yarn and staple jumped 29 per cent. During last year, a total of 3,494,170,000 pounds were produced compared with 2,700,475,000 pounds in 1949. The 1950 production outstripped the previous all-time peak of 1941 by 25 per cent. Rayon filament yarn output last year was at an all-time peak with 1,929,250,000 pounds and exceeded the 1949 production by 18 per cent. Rayon staple production throughout the world last year totaled 1,564,920,000 pounds, a gain of 47 per cent over 1949 and two per cent greater than the previous record year of 1941. From the standpoint of world areas, Africa and Australasia production in 1950 increased 103 per cent over 1949, South America showed a gain of 29 per cent, North America 27 per cent, and Europe 25 per cent.

The potential capacity of the world's rayon industry, according to the *Organon,* is estimated at 4,324,000,000 pounds and by the end of 1952 an operable annual capacity of 4,973,000,000 pounds is expected, a gain of 15 per cent. During 1950, it appears that 91 per cent of the world capacity was utilized, and by divisions, filament yarn capacity was utilized 95 per cent and rayon staple capacity 86 per cent.

Analyzing world production by categories, the *Organon* reveals that the rayon filament output of 1,929,250,000 pounds constituted 55 per cent of total rayon output. From a wartime peak of 1,250,735,000 pounds in 1941, production declined to 901,505,000 pounds in 1945 and since that time there has been an increase in production each year. The rise, the *Organon* points out, reflects not only the postwar recovery of the industry in Europe and Japan but also development and expansion of the industry in both North and South America. Added to the roster of countries producing or planning to produce rayon since 1945 are the following: China, Cuba, Egypt, India, Peru, Uruguay and Venezuela.

The United States during 1950 was again the world's largest producer of rayon filament yarn with 49 per cent of the total to its credit. The next largest output in filament yarn was recorded by the United Kingdom ten per cent; Italy and Western Germany six per cent each; and France and Japan five per cent each. By major areas, Africa and Australasia in 1950 produced six per cent of the world's filament yarn total with 108,340,000 pounds, an increase of 56 per cent over 1949. The greater output in this area, the *Organon* points out, was due mainly to the increased utilization of production facilities in Japan. South America produced three per cent of the world's total filament yarn in 1950 with the main poundage increase occurring in Brazil. North American output was 53 per cent of the total, and was up 20 per cent over 1949. In addition to the gains in the United States, Cuba showed one of 67 per cent; Mexico 24 per cent and Canada 16 per cent.

Europe produced 735,790,000 pounds of rayon filament yarn in 1950, 38 per cent of the world total, and showed an increase of 11 per cent over 1949. Production in 12 European countries reached all-time peak records. Poundagewise the greatest increases were in the United Kingdom, Eastern Germany, Western Germany, the U.S.S.R., Spain, and the Netherlands, in that order. The only decrease

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occurred in France. The *Organon* reminds that data for the U.S.S.R. and its satellites are mainly estimates and reliable information is not available.

Breaking down yarn production by processes, the most important method in the manufacture of filament yarn continues to be the viscose process which accounted for 73½ per cent of the total 1950 world output. Second was the acetate process with 23½ per cent and next was the cuprammonium process with three per cent of the total.

In the rayon staple category, increased production in the United States, Japan, Western Germany and the United Kingdom accounted for the greater part of the 47 per cent increase during 1950. By areas Europe was the largest producer of rayon staple with 69 per cent of the total. Western Germany last year became the world's second largest rayon staple producer and was followed by the United Kingdom and Italy. United States production of 305,555,000 pounds in 1950 made this country the world's largest producer of rayon staple (considering Germany as two separate countries). Combined Western Hemisphere output totaled 338,010,000 pounds, 58 per cent above the previous year and 22 per cent of the worldwide production. The 1950 rayon staple production in Africa and Australasia rose 157 per cent over the previous year to 153,260,000 pounds, most of which was the result of greatly increased production in Japan.

Viscose staple accounted for 91½ per cent or 1,433,000,000 pounds of the total output during 1950 and acetate staple 8½ per cent or 132,000,000 pounds. A small amount of cuprammonium staple output is combined with the viscose data. Germany (Eastern plus Western) was the largest producer with 363,000,000 pounds accounting for 25 per cent of the global output. Other important viscose staple producers were the United States with 13 per cent of the total, United Kingdom 12 per cent, Japan ten per cent, Italy eight per cent, and France six per cent. These six major producers accounted for 74 per cent of the world viscose staple total. Without definite information, the rayon staple produced in the Soviet Union is regarded as all viscose staple. The United States accounted for 89 per cent of all acetate staple during 1950. The remaining 11 per cent was produced in the United Kingdom, Canada, France, Italy, Japan, Mexico and Brazil.

Analyzing present world capacity for rayon, the *Organon* points out that 52 per cent or 2,239,955,000 pounds is for filament yarn and 48 per cent or 2,083,550,000 pounds for staple. World rayon filament yarn capacity is expected to increase to 2,548,705,000 pounds by December, 1952, or by 14 per cent. Countries showing the greatest poundage capacity increases for filament yarn are the United States, followed by the United Kingdom, Japan, the Netherlands, Cuba, France, Mexico, the U.S.S.R., and Argentina. World rayon staple capacity is expected to increase to 2,424,545,000 pounds by December, 1952, or by 16 per cent. The

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major poundage increases here are in the United States, Japan, Eastern Germany, Poland, Mexico, India, Brazil, Finland, the U.S.S.R., and France, in that order.

Cotton Mills Ready To Meet Military Needs

Army Secretary Pace disclosed recently that cotton manufacturers should catch up with military demands by the end of June. In answer to questions from Sen. Maybank (D., S. C.), Mr. Pace said the cotton goods industry ran behind in filling military orders during the first nine months of fiscal 1950-51 because of the sudden expansion of the armed forces following the outbreak of the Korean war. However, the industry will "be meeting scheduled current production demands placed on it with fiscal year 1951 funds by June 30, 1951," he stated.

As for the 12 months starting July 1, he said the industry's output will be able to meet military needs provided "general conditions" do not change. The Army Secretary estimated the armed services and foreign aid programs will buy a total of $541,467,591 worth of fabricated cotton textiles, duck and webbing and other finished cotton goods during fiscal 1952. This represents a slight drop from the $547,040,106 budget for this year.

The Army's fiscal 1952 needs were placed at $339 million, the Air Force $64 million, the Navy $117 million and foreign aid $21 million. This compares with $355 million in fiscal 1951 for the Army, $66 million for the Air Force, $112 million for the Navy and $14 million for foreign aid. Mr. Pace noted, however, that the foreign aid program calls for a sizable boost in raw cotton buying. He listed fiscal 1952 purchases of the raw fiber at $88,801,240, as against $59,434,160 during the current year.

Large World Cotton Crop Is Expected

The International Cotton Advisory Committee reported June 4 that this year's world cotton crop may be the second largest on record. The advisory committee, an inter-governmental agency representing countries, said the coming crop may total about 35 million bales. Such a crop would compare with the past season's 27,500,000 bales and with the all-time record world crop of 38 million bales in 1938.

The committee said its sources of information are generally of the opinion that sufficient acreages are being planted to make it seem rather probable that the U. S. government goal of 16 million bales will be reached. Such a crop would be about six million bales larger than last year's.

The committee said relatively important increases in production also are expected to take place in Turkey, Syria, Iran, Iraq, and Egypt, and also possibly in Pakistan and

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India. The crop in Mexico, however, has had a bad start this Spring due to prolonged drought. The committee said the prospective increase in world production outside of the United States and excluding Russia and China totals about 1,500,000 bales.

Cotton consumption should continue at a near-record rate during the coming year, as defense demands for heavier-type fabrics offset the present decline in orders for civilian textiles, the Agriculture Department forecast June 6.

Noting that the mills' daily rate of consumption in April suffered a sharp drop of 23 per cent below the March figures, the department said the decline was "due in part to the strike of some Southern textile workers" while "large inventories" in warehouses and department stores stressed prices. However, the department said, this seems to be only a temporary slump, which should end after the seasonal decline in textile production this Summer, because the steady rise in national income indicates that "demand for cotton products is basically strong."

Mill consumption of cotton during the first nine months of the 1950-51 season was about 23 per cent larger than a year earlier and the highest on record for the period except for 1941-42 and 1942-43, at the beginning of U. S. participation in World War II. Mill consumption for all of the current season (August, 1950-July, 1951) probably will amount to about 10,760,000 bales. This is higher than any other season except 1941-42 and 1942-43 when the United States consumed more than 11 million bales. The estimate for the current season is based on a projection of the daily rate of consumption during the first nine months of the season with an allowance for the usual seasonal declines in June and July.

Exports of United States cotton are expected to total about 4.2 million bales. Since the total supply is estimated at 16.9 million bales (carry-over on Aug. 1, 1950, plus ginnings and exports), the carry-over at the end of the current season probably will be about 1.9 million bales. Most of this probably will be owned by cotton mills. At the beginning of May, cotton on hand at mills amounted to approximately 45 per cent of all the cotton in the country.

Apparently expecting the price to drop when the new cotton crop comes in this Fall, farmers have sold 99.4 per cent of their old crop, compared with 86.2 per cent at the same time a year ago and only 68.6 per cent in May, 1949.

SOUTHERN SOURCES OF SUPPLY for Equipment, Parts, Material, Service

Following are the addresses of Southern plants, warehouses, offices, and representatives of manufacturers of textile equipment and supplies who advertise regularly in TEXTILE BULLETIN. We realize that operating executives are frequently in urgent need of information, service, equipment, parts and materials, and believe this guide will prove of real value to our subscribers.

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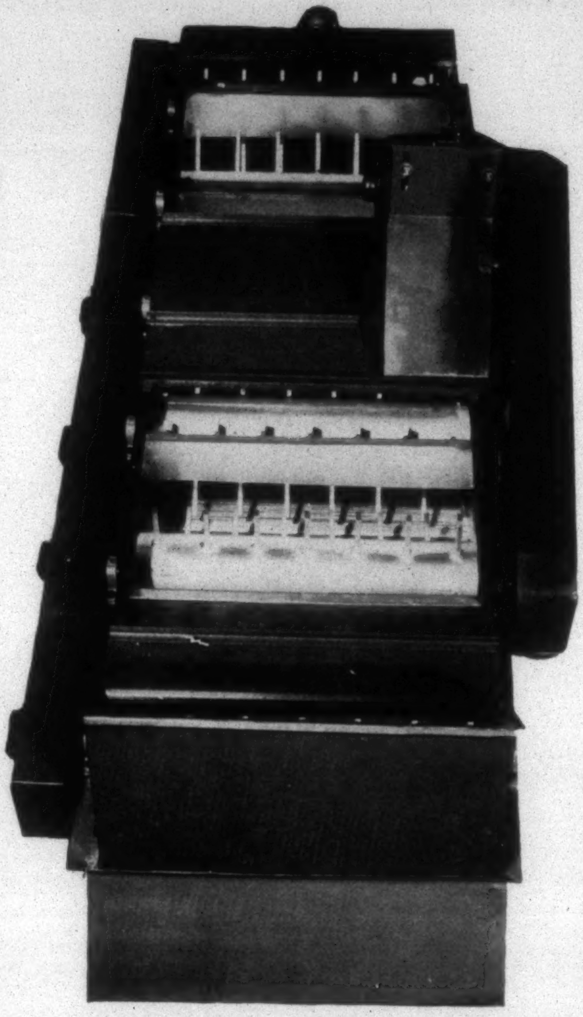

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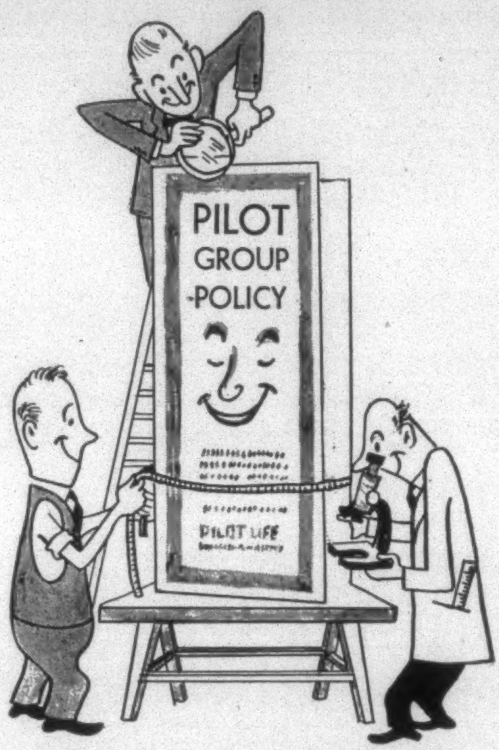

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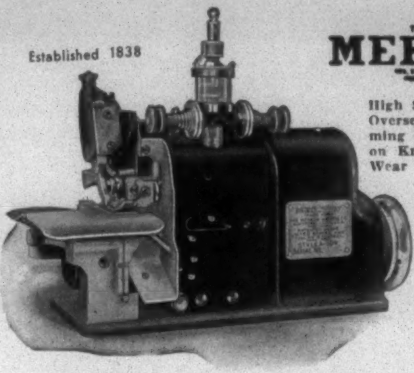

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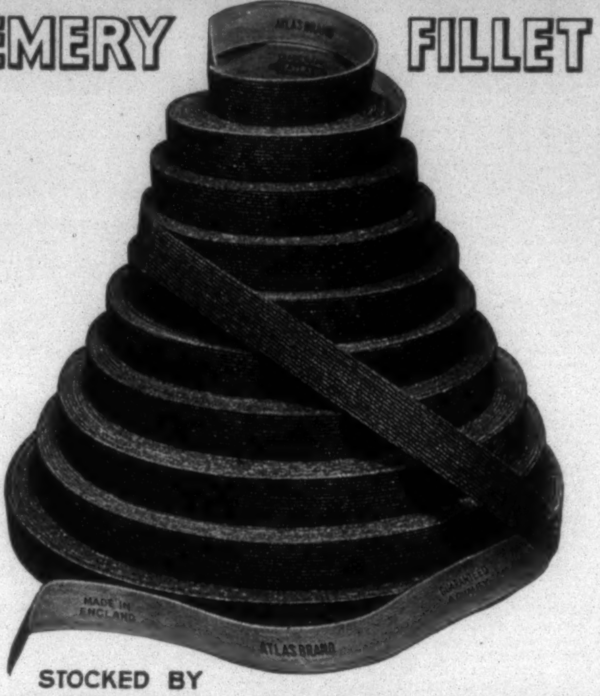

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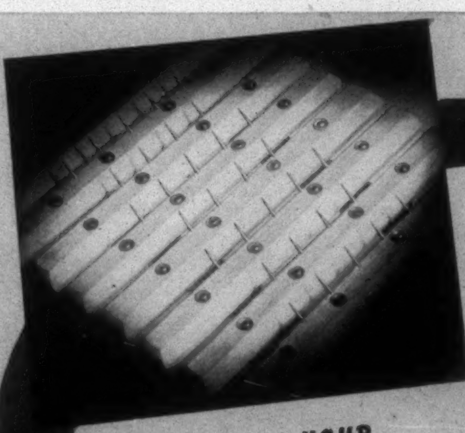

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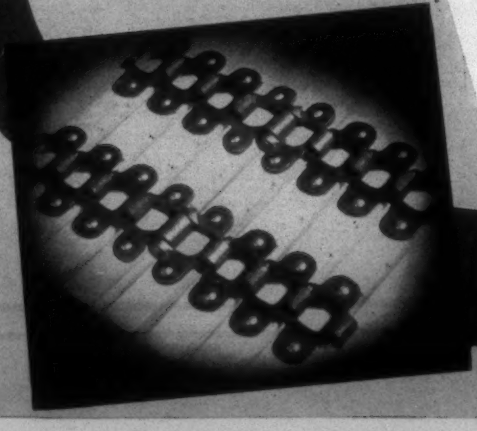

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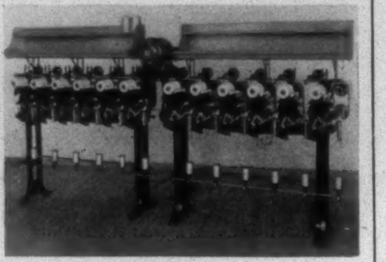

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1—20" Drill Press.
2—16" B. B. Sensitive Drill Presses, Motorized.
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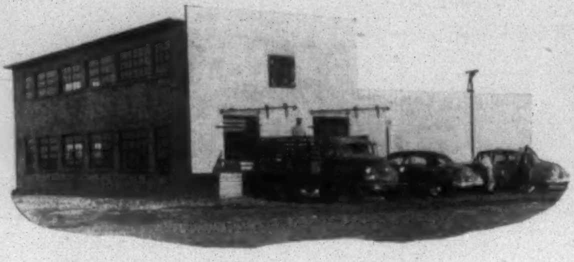

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– TEXTILE INDUSTRY HAPPENINGS AS THE MONTH ENDED –

PERSONALS

Myron T. Fleming has been named vice-president in charge of sales and engineering for the dryer division of Proctor & Schwartz, Inc., succeeding George W. O'Keeffe, who held that post until his death in February of this year. Mr. Fleming, sales manager of the company since early 1950, has been associated with Proctor & Schwartz since 1935. A graduate of Drexel Institute of Technology, Mr. Fleming worked first in the Proctor dryer research department and then in dryer engineering. During World War II he served as a lieutenant-colonel in the U. S. Army. Returning to Proctor & Schwartz after the war, he worked as a sales engineer until early 1950 at which time he was promoted to his post in sales management.

James W. Campbell, first shift slasher room overseer at Mooresville (N. C.) Mills, was painfully injured recently when he was struck by a loom beam when it fell 14 feet from its special rack. Two of his ribs were broken and his left arm bruised.

W. H. Hardeman, manager of the Ella Division of Consolidated Textile Co. at Shelby, N. C., recently was elected a vice-president of the firm. He continues as manager of the Ella Division.

Dewey W. Quinn, Sr., of Pelzer, S. C., is now assistant overseer of weaving at Mill No. 2 of Clinchfield Mfg. Co. at Marion, N. C.

Harold Mercer, manager of the Firestone Textiles plant at Gastonia, N. C., recently completed 20 years service with the firm. He was presented a service pin and a watch. Mr. Mercer's first assignment with the firm was in the New England area; in 1935 he was transferred to Gastonia as comptroller of the textile plant.

J. B. Templeton, who is resigning as superintendent of the Poinsett Plant of Abney Mills at Greenville, S. C., to accept a similar post at Lydia Cotton Mills, Clinton, S. C., was honored June 9 when the Poinsett baseball park was named Templeton Field. Mr. Templeton was instrumental in erecting Poinsett's new and modern field several years ago, and in the expansion of the plant's athletic program.

E. A. Hickox has been elected secretary-treasurer and Arch W. Wallace has been elected assistant treasurer of Woodside Mills, Greenville, S. C. . . . Oliver Iselin, Jr., has been made a member of the Woodside board of directors. . . . Woodside operates mills at Greenville, Easley, Liberty, Simpsonville and Fountain Inn, S. C.

Bennett S. Rose, vice-president of Iselin-Jefferson Co., Inc., injured in an airplane crash April 10, is expected to be able to leave the Arlington, Va., hospital about mid-July.

Brig.-Gen. Hugh B. Hester, commanding general of the Army Quartermaster Depot at Philadelphia, Pa., has had his request for retirement approved by the Adjutant General's Department. He has been in the service 35 years.

OBITUARIES

Bartholomew J. Barry, a partner in the textile firm of Curran & Barry, New York, and active in the management of several Southern cotton mills, died June 5 at his Summer home in Rumson, N. J. His wife and two daughters survive.

Lewis D. Blake, 80, retired president of the former Belton (S. C.) Mills, died June 10 after a lengthy illness. After retiring as president of Belton Mills, Mr. Blake served as board chairman until the firm was acquired by Abney Mills several years ago. Surviving are his wife, four sons, two daughters and a sister.

Warren Emley, 65, adjunct professor of chemistry at the New Jersey College for Women and a life member of Textile Research Institute, died recently. Mr. Emley, who was one of the original directors of T.R.I. and its first chairman of research chemistry, was with the National Bureau of Standards from 1909 to 1943 and in 1944 served as a fiber expert with the War Production Board. His wife, a daughter and a sister survive.

Robert B. Etchier, 40, prominent Gastonia, N. C., mill organizer and advertising promotion director, died June 12. For 15 years Mr. Etchier was associated with Threads, Inc., Gastonia, and about five years ago organized Baker Mills, Inc. At the time of his death he was in the radio field. Surviving are his wife and a daughter.

John M. Hopwood, 67, chairman of the board of the Hagan Corp., Pittsburgh, Pa., and its subsidiaries, died June 8 at Vero Beach, Fla. Other companies of which Mr. Hopwood was head and co-founder were Hall Laboratories, Inc., Calgon, Inc., and the Buromin Co. Son of a Welch coal mine operator, Mr. Hopwood came to the United States in 1904 at the age of 21.

Frank J. O'Neil, 52, president of Lowell (Mass.) Shuttle Co., died recently at his home in Lowell after a brief illness. Surviving are his wife, two sons, two daughters and two brothers.

MILL NEWS

MOBILE, ALA.—Hesse Mfg. Co., located in Rhode Island, with home office in Detroit, Mich., has been chartered to manufacture textile fabrics here.

MILLEDGEVILLE, GA. — The naval ordnance plant here has been sold to J. P. Stevens & Co. for a reported $2,000,000. Stevens leased the plant from the government in 1947 and has been operating it as a woolen mill. The transaction is scheduled to be closed Aug. 1. The property consists of 18 buildings on 110 acres.

PROVIDENCE, R. I.—Royal Little, president of Textron, Inc., announced June 9 that Textron would build a new plant in South Carolina at a location "completely out in the country" in an area some residents are calling Textron, S. C. Mr. Little did not say what product the company plans to produce at the proposed plant.

CARTHAGE, N. C. — Carthage Weaving Co. has been sold to Victor Levy of Greensboro, N. C., who operates Greensboro Mfg. Co. It is believed that Mr. Levy will use part of the Carthage plant for women's lingerie and lease the remainder to a defense contractor.

BELTON, S. C. — Abney Mills recently offered its former superintendent's house and three acres of grounds to the city of Belton for use as a recreation center.

NEW YORK, N. Y.—The firm of B. J. Barry & Co. has been appointed sole selling agent for the output of W. A. Handley Mfg. Co. at Roanoke, Ala., and Massapoag Mills Corp. at Lincolnton, N. C.

PENSACOLA, FLA.—A major new plant, producing about 50,000,000 pounds of nylon yarn annually, will be built near Pensacola by the Chemstrand Corp., it was announced June 12. Chemstrand President Osborne Bezanson said the new plant will make a substantial increase in total U. S. nylon yarn producing capacity. Construction will start within a few months on a 2,000-acre tract on the Escambia River, about 12 miles north of downtown Pensacola. Chemstrand became the first licensed nylon producer in the U. S. when Mr. Bezanson signed a license agreement recently in Wilmington, Del., with President Crawford H. Greenewalt of the E. I. du Pont de Nemours & Co. Mr. Bezanson said the new Florida nylon plant will employ between 3,000 and 4,000 persons, including 200 to 300 technicians. Chemstrand recently borrowed $110,000,000 from a group of insurance companies to finance its several production units including a new plant in Decatur, Ala., for the production of a new "man-made" Chemstrand acrylic fiber. The Decatur plant will produce about 30,000,000 pounds annually of the new acrylic fiber which can be used alone or blended in any amounts with other fibers such as cotton, wool and rayon. The Chemstrand Corp. was formed in 1949 on a 50-50 ownership basis by the American Viscose Corp. of Philadelphia and the Monsanto Chemical Co. of St. Louis.

RUTHERFORDTON, N. C.—New looms recently installed at Laurel Mills, Inc., have brought the plant total to 192. An additional 52 looms will be installed beginning about July 1. Thomas O'Connor, manager, states that employment now is more than double the figure for the same time in 1950.

GLASGOW, VA.—A Roanoke, Va., construction firm has been awarded the contract at $300,000 for erecting a new building here for James Lees & Sons Co. of Bridgeport, Pa. The new building will provide an additional 25,000 square feet of floor space for the plant and will be utilized in the fabrication and treatment of canvas duck. The new building is expected to be completed in September or October.

STRASBURG, VA.—Strasburg Silk Mills, Inc., has changed its name to Strasburg Textile Mills, Inc. The change was effected according to the company officials, in order to represent more clearly its type of manufacturing. Strasburg no longer weaves silk. No change has been made in company structure or policies.

DANVILLE, VA.—Dan River Mills, Inc., recently completed a $9,000,000 loan through a Boston corporation with four institutional investors. The purpose of the loan which will carry an annual interest rate of 3¼ per cent is to provide working capital during the inflationary period. The money will be paid back $450,000 annually, meaning that the borrowing will be amortized by 1971.

SPARTANBURG, S. C.—Arkwright Mills Corp., Arkwright, S. C., Spartanburg County, recently extended and improved existing buildings in the Camp Croft area near Spartanburg and installed 18,000 spindles with complementary equipment for spinning carded yarns. Operations are now beginning in this new plant. Lockwood Greene Engineers, Inc., Spartanburg, were the architects and engineers. Fiske-Carter Construction Co. handled the construction, Grinnell Co., Inc., the sprinklers and American Moistening Co. the humidifiers.

NEW YORK, N. Y.—Celanese Corp. of America has no immediate plans for construction of a new plant in the Southeast, it was reported recently by Emery N. Cleaves, vice-president. Mr. Cleaves stated that no new knitting mill or textile plant of any kind was under consideration anywhere at the moment.

HICKORY, N. C.—The finishing plant of Knit-Sox Knitting Mill has been sold by Mrs. Mollie Nalanbogen of Paterson, N. J., to Hickory Yarn & Processing Co., Inc., and will be occupied by the new owners about July 15. The new owners will use the buildings to house equipment for dyeing and processing of yarns for men's and women's hosiery, and for piece goods.

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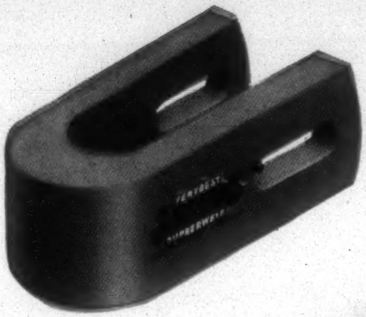

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- **MOLDED AS ONE PIECE** ENTIRELY, INCLUDING PLUG
- **NO RIVETS** OR PARTS TO WORK LOOSE
- **NO PERMANENT STRETCH** —RESISTS OILS—NOT AFFECTED BY HUMIDITY

Made entirely of
rubberized cotton fabric
More uniform
than any other lug strap!

Samples available

[illegible]

Northern Division
DANIELSON, CONNECTICUT
Southern Division
CHARLOTTE, NORTH CAROLINA

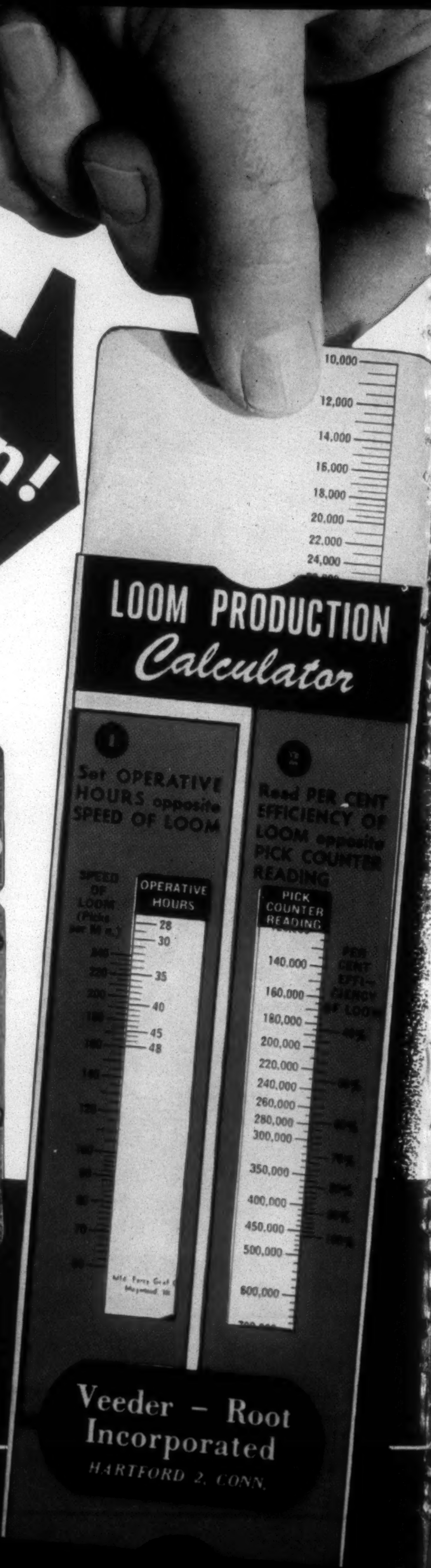
You asked for it!...

So here it is again!

Requests for this handy Loom Production Calculator, since it was first offered a short time ago, prove that modern-minded mill men are vitally interested in getting top performance out of their looms and their Veeder-Root 2-3 Pick Counters

Here's how it's used: In column 1, set the number of operating hours opposite the ppm of the loom. Then, in column 2, read your figure for *Percent Efficiency of Loom* opposite the pick-counter reading. There you always have a quick check on whether your looms are running up to par.

THIS HANDY "PRODUCTION HELPER" is yours for the asking . . . *SEND FOR IT TODAY!*



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